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Ruskin's Influence on Present-day Thought

JASON ALMUS RUSSELL.

CORNELL UNIVERSITY, ITHACA, N. Y.

CLAUDIUS GALEN, a Greek physician of the second century, declared that the man who purposed to know anything better than the multitude must surpass others in his nature and early training. From adolescence he should have an ardent desire for the truth, which is to continue in his studies both night and day, and when he has acquired this knowledge he must test and prove it over a long period.

Today we feel that the mind is the product of two forces,—that of the empiricist who maintains that man with his soul is, to start with, but a *tabula rasa*, which afterwards contains only what is written on it from without; and that of the nativist, who insists that all development, in its real essence, proceeds from the inborn nature of the individual.

From this we may assume that the three cardinal points determining the course and conduct of human existence are ancestry, disposition, and education. But education, apart from the great laws of selection and development, remains powerless as a force in the improvement of the race. Man, therefore, is a product of the past as well as a potentiality for the future. In order to evaluate the work of any individual we must know not only what other people have done

for him, but what he has done for himself and for his fellow man.

Ruskin came under the influence of excellent home surroundings, good literature, noble parents, nature and art. The yearnings of his youthful years, the aspirations of parents, the advice of friends, and the emergence from the uncertainties to the certainties of life, became both positive and negative influences in his career. By this I mean that he followed and rejected the advice of his parents: he did not become a clergyman as they wished him to do; neither did he scorn the early religious training of his youth, but expanded it and amplified it to suit his present and future needs, and the needs of the whole of England *as he saw them.* He sought his life's true calling, according to his own words, in the spirit of humility and patience.

Ruskin's literary work divides itself into two periods. The first period, 1843-1860, is illustrated best by *Modern Painters* and *Stones of Venice.* In the first work he sets forth certain obvious and visible facts; in the second he considers the value and meaning of certain mental impressions. He devotes an important section in *Modern Painters* to truth: truth of tone, truth of color, truth of chiaroscuro, and the truth of space, to all of which he gives his own particular interpretation.

In *The Stones of Venice* we discover the archæology and history of that famous city, which reveal the cause of her strength and glory and the reasons for her decay and downfall. In all architecture Ruskin insisted on obedience to three great laws governing, respectively, the materials for ornament, the treatment of ornament, and the arrangement of ornament. Venice failed to heed such laws in her later years of greatness. Much can be learned from the prophetic tone of this work, for the history of Venice was written truthfully and lastingly on the blocks of stone which tell of her domesticities, her manufactures, and her religion. All her great architecture told of national virtue; and her later architecture of her national vice and shame.

His second period of literary activity, 1860-1885, was marked by changes of subject rather than by any definite pause in his writings. Heretofore he had made more general observations, which he now proceeded to apply to all sorts of things in everyday life; his attitude toward all social questions was that of a reformer—even that of a very radical reformer. Art led him to the study of architecture, and architecture to the social and political questions of his day. His principles are universal and are not limited by any one movement or moral code, but apply to all equally well.

He delivered lectures on social and political questions; he wrote for magazines; and published much miscellaneous material on the subjects of art, botany, geology and ornithology.

Ruskin had a prejudice against machine labor and railroads in particular. In *Walden* we read how the gentle Thoreau commented on the advantages of the railroad: that the country people now have a way of setting their watches without going to town. But our author finds that trains speed up the age too much; their smoke disfigures the landscape, their trestles spoil beautiful gorges,—in short, they are incompatible with the life of his time. But the great procession moved on in spite of him. His antagonism to machine labor and steam power was not strong enough to do away with it altogether, but his antipathy was toward the work which kills, such as employment in phosphorus match factories, and the results of the Industrial Revolution, pictured so vividly in *Mary Barton.* He asserted that when machinery threw so many people out of work the inhabitants should return to handicraft, so that none might be idle except the dead: "Now if persons are employed and the demand is still greater than can be met, then let the forces of nature be stored up: reservoirs, the wind in the sails of ships, even the energy of steam, but not at the expense of turning workmen into machines nor the destruction of inventiveness and cunning."

He asserted that every man should be paid according to his skill,—the risk of the labor being taken into considera-

tion. His idea appears to have been that wages meant food and lodging given by the possessors of the soil. His construction of this principle was extremely narrow, for in his own case, with all his charity and generosity, he would not have allowed this rule to be applied to himself. Employment was to be regulated through the principles of vital and muscular power, because "it is always better for a man with his own hands to feed and clothe himself, than to stand idle while a machine works for him." All remuneration, regardless of the life of the workman, falls below the Ruskin standard of wage. Pay men according to their skill, consider the risk they run in your employ, and see to it that the poorest receives that which embraces healthful surroundings and supplies the necessary demands of life. That which he applies to the laborer he would also apply to the merchant, doctor, soldier, and manufacturer, with such modifications as would suit their cases. These citizens are to be faithful first to the nation and to the individual, and to consider as secondary all profits and fees. Temptation, however subtle, trials, however terrible, should never influence men who hold posts of honor and trust.

Saint George's Guild illustrates the questions of daily life as applied to the commonwealth. Its laws in the main are those of Florence of the fourteenth century, with such modifications as are made necessary through five hundred years. In fact they resemble the communal laws of more recent organizations, dealing with the health and education of the people, earning and disposition of wealth, and supply and demand.

In the third volume of *The Stones of Venice*, Ruskin defines art as producing, whereas science knows. Science treats of things as they are, whereas art deals with things as they affect the soul,—that is, the first has to do with facts and the second with phenomena. Art sees into the soul of things and declares the spiritual values of the matters discovered by science,—the truths of essence. And hence it is as much vaster in its field than science "as the soul is larger than the material creation." All great art is revelation and all great

art is praise. In every mountain range we have not only height and outline, but also inspiration, majesty, and the strength of the hills. The pity is that few men have the two-fold vision:

> "Dust thou art, to dust returnest,
> Was not spoken of the soul."

In the field of Political Economy the battle between Ruskin and his opponents was keen and bitter. He who reads carefully Ruskin's earlier writings will be prepared for his last and ultimate conclusions; but to the commercial man, ignorant of Ruskin as a teacher, and influenced by modern views of economics, they were incomprehensible. He received the seeds of his last illness from the conflict, while the opposition felt the smart of many a return blow. He poured torrents of invective on the heads of the wealthy, and in a measure the warfare was healthful, since the struggle was for truth and justice on both sides. He defined Political Economy as regulating the acts and habits of a society or state in regard to its maintenance, and as "a system of conduct and legislature, founded on the sciences directing the arts, and impossible, except under the conditions of moral culture."

Wealth he defines as consisting of the following things: land, with its associated air, water, and organisms; houses, furniture, and instruments; stored or prepared food, medicine, and articles of bodily luxury, including clothing; and books and works of art. Wealth, as such, is distributed through the law of Coöperation; but here the word is used as opposed to competition, not mastership.

His teaching reached out beyond the needs of his age,—the needs as understood and estimated by selfish men. Our future will be better because he awakened the present. In order to remedy the congestion and greed of England he irritated social sores, unfolded national health laws, and enforced them. He may not always be a leader whom we want to follow; but he will instruct us, his thoughts will be fresh, and for

long years his position will be secure among English writers. "As writer, reformer, and interpreter his name will claim rank with those whom time is slow to forget and fame to discard."[1]

In his own age Ruskin's was *vox clamantis in deserto*,[2] because like St. Bernard, he was preaching doctrines which his enemies said were unfitted for application in his time, and delivering them as a poet, mystic, and missionary. He would have had the present generation go back to the Golden Age rather than lend his energies to the development of a rational brotherhood in the present. He rejected all modern mechanical improvements, for the nineteenth century had been too strong for him, leaving him isolated while humanity advanced, —advancing while he consigned humanity to perdition, like many a prophet, for rejecting his teachings.

In *Tennyson, Ruskin, and Mill, and Other Literary Estimates,* Frederick Harrison remarks: "I am one who believes most devoutly in the need of repentance, and in the ultimate, if not early advent of a Kingdom of the Beautiful and the Good. But like the world around me I hold by the nineteenth century and not by the thirteenth; or rather I trust that some century to come may find a means of reconciling the ages of steam and the ages of faith, of combining the best of all ages in one. Unluckily, as do other prophets, as do most mystics, John Ruskin will have undivided allegiance. With him it is ever—all or none. Accept him and his lesson—wholly, absolutely, without murmur or doubt—or he will have none of your homage. And the consequence is that his devotees have been neither many or impressive."

Now Harrison's view is that of the conservative, thinking Englishman who has looked on both sides of things and weighed the evidence. For Ruskin's intolerance is one of his greatest faults. In this particular, where he might have

1 William Burgess: "The Religion of Ruskin."

2 John 1:23.

found ample advice on the matter, he never consulted the Scriptures for guidance.

A large volume could be written on the moral influences found in the great Englishman's writings. His earlier books overflow from a soul full of frankness, enthusiasm, and passion. His later works show an increase of severity, restraint, and the sadness that comes with the years, combining the elements of poetry and prophecy. At the same time he seizes the moral and aesthetic side of truth with clearness and conviction. Let us scan a few of his interpretations which reveal his moral nature.

In *The Crown of Wild Olive* he defines work as the useful thing and play as the pleasing thing. Yet cricket, he says, prescribed by the doctor, would be work. Now we know that this is false, unless cricket, or baseball, or tennis is absolutely repulsive to an individual, for many a person would willingly indulge in these games except for a lack of time. Play and work can be and often are combined with good results.

Ruskin loved nature. He shows the threads and colors of her garment, and lifting it aside, reveals to us the soul which breathes therein. He gave the British public a renewed love for the out-of-doors, and made known secrets heretofore kept from the uninterested gaze of man: cloud-forms, the majesty of mountains, and the sweetness of meadows: "Earth's crammed with heaven, and every common bush afire with God."

He puts his soul into his writings and thereby reaches the soul of his reader. His words are as spirit and life—stimulants which do not intoxicate but nourish. Through his writings he has accomplished in his own time numerous reforms: working-men's colleges, city settlements, clubs, museums and art galleries. His works, usually free from materialism, purify and ennoble and encourage admiration, hope and love. The Bible is his great textbook,—permeating and leavening all his works. In *Modern Painters* we find more religion

than in many theological compendiums. And by Mather he is said to possess more of the Hebrew Prophet than of the Galilean Apostle.

In establishing and estimating Ruskin's influence on present day thought it is important to keep in mind his definition of an educated man: "One who has understanding of his own uses and duties in the world, and, therefore, of the general nature of things done and existing in the world; and who has so trained himself, or been trained, as to turn to the best and most courteous account whatever faculties or knowledge he has." Latent possibilities are present in every youth, and it is our task to rouse them and make them function in his own life.

In common with L. W. Stern, the German child psychologist, Ruskin inquires into the time when a baby should be trained. At six months of age an infant will answer a smile with a smile and a scowl with a scowl. He reacts favorably to warmth and unfavorably to cold. Bitter food is spit out of the mouth while sweet is dissolved. From this we deduce that if a house is orderly and quiet instead of in confusion and uproar, the infant will be better able to fasten his senses on those important things around him and to see that which will be necessary for some of the best powers of future thought.

Cultivation of the body comes next. How Ruskin would rejoice in our modern junior and senior high schools, with their dental clinics, swimming pools, compulsory gymnastics, and class calisthenics! Indeed, the "trial schools" which he advocated, correspond rather definitely to the orientation courses in the junior high school. Strength of beauty of physique appealed to him, as well as preparation for bodily strength in adult life. In *Time and Tide* he urges us, if we have to abuse the body through intemperance, smoking, and dissipation, to wait until we have our full growth and have reached the stage where the body can more easily throw off these things. In this way the boy will get the full strength of his body first, taste the joy and bear the beauty of youth,

and get an excess of work from his mind. The period of youth is the time when man makes himself, or is made what he is, forever.

In conclusion, let us consider several questions which will focus our attention on the ephemeral and the permanent teachings of the great reformer.

First, what book shall we recommend to the beginner to read?

Ruskin started with art, and discovered soon that his subject held hidden in its spirit the principles of all life. So he followed its leadership into the universal domain where the subject led him. His changeability must be regarded as growth; he never varied from his first principles, but merely corrected them, which is the sign of a genius and a scholar. Says J. M. Mather: "The highest consistency is inconsistent." He tells us that *Unto This Last* and *Fors Clavigera* contain all that is best in his system, and all that he cares to preserve; but these two books are totally inadequate to enable one to understand him. Read a volume from cover to cover, but shun selected passages. No one book has the key to his teaching. The text of his first book may be discovered in his last, and repetition is in all his writings. In fact, he never writes twice alike, because on second writing he has more to say. We find ourselves digging always, like a miner, ever sinking our shafts toward the bed-rock, and picking up gems of wisdom by the way.

Secondly, what was Ruskin's relation to the Socialist movement?

This subject is as many-sided as religion, both in definition and concept, and includes teachers as far apart as Ruskin and Marx. Ruskin would have the wealth of a nation belong to a nation, and not to one or more individuals. The individual, in his own order, would belong to the nation—even his liberty and obedience. Through obedience polity secures stability, life and happiness, faith in its acceptance, and perpetuation of its principles. He thinks that the attainment of

liberty is one of the most dangerous of all phantoms, for "the universe, stars, earth and sea have it not, and we men have the mockery and semblance of it only in our heaviest punishment." Law and reverence for the law—both human and divine— form the foundation of his system of socialism. It is far better to have had a bad law than to live lawlessly; and to suffer under a tyrant is greater gain than to be the free man of one's own undisciplined will. It is more important to deserve liberty than to achieve it, and the most sorrowful fate of all is to have it without deserving it. Furthermore, death is the only real freedom possible; it is liberty of such a type that each particle of the rotting body leaves every other particle and shifts for itself. "Only one thought is possible to you if you are wise: *your liberty is geometrically proportionate to your folly.*"

Next, how did Ruskin influence the modern pulpit? He has given a practical bent to religion and "broken bread that has helped many a masculine digestion among divines." His voice is the cry of a soul instead of the echo, and his mission is to his age rather than to any one church or creed. His powers of presentation give strength to the sermons and expositions of moral principles found in *Modern Painters* and *Stones of Venice.* He draws on the great teachers of the world for guidance and interpretation, and on nature for illustrations. In these sermons we find exordium and peroration, division and subdivision, illustration and application; and through them all run pathos, scorn, irony, wrath, and indignation in swift and sudden change.

Did Ruskin found any lasting school of thought? He did not found a school under a distinct name which has lasted to this day, but he modified and spread himself through many a spirit and life. The ideals of the Guild of St. George, in an altered form, have remained permanent as expressed in city settlements, shorter hours for labor, and better working conditions. The Guild disappeared long ago, but the spirit of his teaching marches on. His was one of the great forma-

tive minds of the century. "He has created a powerful current which even his critics and scoffers have been unable to stem. Like straws the strongest of them have drifted with the mighty stream he started."

Lastly, how far is it safe to follow Ruskin as a teacher? In *Fors Clavigera* he announces to the world that he does not *opine*, he *knows!* This is the dogmatism of genius. "And so genius calls forth from the mind of the student the fire that is evidence of its origin." Surely he is not a safe guide to follow in the fields of mechanics, industry, invention, and economics. He consistently opposed the manufacture of labor-saving devices; he fought tooth and nail for handicraft work instead of the manufactured article; and in the field of economics he stood against capital, trusts, and trade combinations. With him no spirit of compromise existed. But if we are confident of our inner evidence we may test the writer by our common sense: "What says that which is highest and best in you when he clashes with you?" In other words, it is more a matter of conscience than of doctrinal direction. Ruskin must be approached from the side of the intuitions and interpreted by means of the inner faculties. Then only will the mind be sensitive to his constructive teachings and apply them to present-day reforms.

With William Morris, the reformer might well have exclaimed in poetic prophecy:

"Come, join in the only battle wherein no man can fail,
Where whoso fadeth and dieth, yet his deed shall still prevail.

"Ah! come, cast off all fooling, for this at least we know:
That the Dawn and the Day is coming, and forth the banners go."[3]

3 "The Day is Coming," William Morris.

Measurement and Analyses of Student Achievement in a Beginning Course in Educational Psychology

WINONA M. PERRY, LINCOLN, NEBRASKA.*
TEACHERS COLLEGE, UNIVERSITY OF NEBRASKA.

THE purpose of the beginning course in Educational Psychology, as presented during each semester in the Teachers College of the University of Nebraska is twofold: to enable our students more nearly to understand and appreciate (1) their own responses to situations, and especially (2) the responses of the boys and girls for whose guidance these students will be responsible shortly. In particular, they should develop abilities to understand innate responses, emotions, and urges or drives underlying human activities; to recognize the importance of the Laws of Learning and to use them while acquiring habits of more effective responses to specific situations; and to appreciate the nature and significance and measurement of individual differences. In order to realize the aims of this course, tests were constructed as a teaching device; in addition, they are proving effective as a means of measuring student achievement.

Nature of Tests.

The tests, when first developed, were twelve in number. However, the responses of more than 500 students during the year of 1925-26 resulted in the changing of these tests, until the present series includes ten tests.

* The writer wishes to express her appreciation of the kindly and effective conferences with the co-operating instructors in the several sections, Mr. G. O. Fuchs, Dr. H. C. Koch, and Mrs. A. L. Burnham; of the many hours of scoring and of statistical computations by Mary S. Yabroff, Frances McChesney, and Lyndall M. Fisher; and especially to Helen M. Keyes, whose assistance in administering the tests, and in scoring and evaluating the student responses has been invaluable to me.—W. M. Perry.

These tests, which are objective in character, include the material† and 'forms' as described in Table I. Illustrative

TABLE I.

TEST MATERIAL AND FORMS.

Test Number	*Text Chapters*	*Test Forms (with number of elements included)*
1	1–4	True-False (30); Completion (21)
2	5–7	True-False (25) Matching (12) Cross-out (13)
3	8–9	True-False (50)
4	10–11	True-False (15) plus justifying of false statements. Completion (15)
5	12–13	True-False (25) Multiple Choice (7) (Underlining)
6	14	True-False (30) Multiple Choice (3) (Underlining)
7	15	True-False (20) plus justifying of false statements). Matching (6) Completion (11)
8	16	True-False (35) Multiple Choice (6) (Underlining)
9	17	True-False (15) Multiple Choice (9) Completion (1)
10	18–19	True-False (50) Multiple Choice (10) (Best Answer)

elements of these test forms are stated in Table II.

† The text is "Elementary Psychology," by A. I. Gates.

TABLE II.

SAMPLES OF TEST ELEMENTS.

True-False:

Human behavior is a series of reactions to definite stimuli.

Although the capacity to learn is native, the capacity to profit by experience acquired.

Emotions have habit-forming effects.

The impulse to secure sympathy is stronger than the urge to be active in relief.

The process of improving a function causes satisfaction invariably.

Expectation plays a relatively minor part among the causes of error in perception.

Dreams and reasoning are represented on the same scale of control in thinking.

Elimination of the undesirable, and selection of the successful, trials are as essential in musical composition as in the solution of an "original" in geometry.

The probability of transfer in improvement from one situation to another is still a debatable question among psychologists.

Dislike of scholastic work rather than improvement in the functions practised may result from the subjects which purport to discipline the mind and character.

Mental and motor efficiency is disturbed less by small doses of drugs than by loss of sleep or through continuous mental work.

A scholastic task is an aggregate of minute, specific tasks.

Completion:

Ordinary observation results in descriptions that both .....and.....

Learning by.....of a performance supplements but does not.....for the process of trial and.....

Evidence from the more scientific investigations is indicating that.....of attack, ..., and.....are the elements which may transform from one situation to another.

Cross-Out:

sweet, sour, spicy, salt, bitter
intensity, interval, pitch, timbre
pride, anger, fear, excitement, sympathy

Multiple Choice (Underlining):

Learning to read German prose enables us to write it speak it understand spoken German understand printed German.

Reasoning involves subtle learning mere recall of reactions aimless activity.

Under proper incentives, the daily work of individuals should be greatly lessened slightly increased greatly increased.

Multiple Choice (Best Answer):

Usually the more intelligent college students are also:

.... a. Less socially adaptable.
.... b. More socially adaptable.
.... c. Average in their social contacts.

The mental equipment of an individual may be inferred more from a knowledge:

.... a. Of his race.
.... b. Of his age.
.... c. Of his sex.
.... d. Of the traits of his parents.

The method of scoring these tests is: (1) a number equal to the difference between the number of correct and of incorrect responses (R-W) to each form including true-false statements, but (2) according to the number of correct responses on each of the other forms included on any test. The total or maximum score for each test is the sum of the subscores, weighted at present according to the subjective estimate of the instructor; although a study is now in progress to determine more accurately the relative weighting to be assigned to each form occurring as part of any test.

Interpretation of Scores.

The scores achieved by our students are reported to them by means of a tabular distribution, one for each section. Each score has an exponent, which is the decile position of that score. The decile positions are determined by dividing into tenths* a distribution surface which includes every score

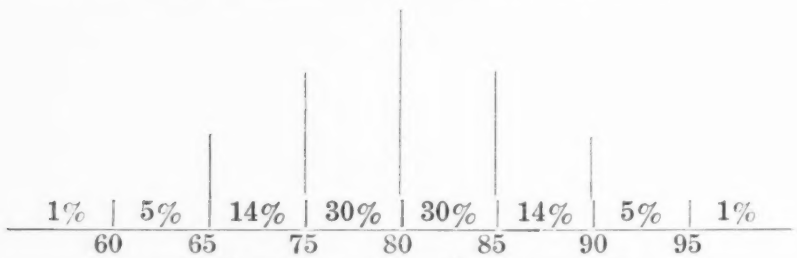
* On certain tests the numbers of errors (and not tenths) were the basis of division.

achieved on that particular test; the lowest tenth is called 1, the next lowest 2, and similarly until the highest tenth is called 10. As success is a powerful stimulator toward further achievement, the decile position for each test is recorded by the student individually, as well as by the instructor. The interpretation of these decile positions is that the deciles 5 and 6 represent average work; 4 passing, and 3 conditional passing; 7 and 8 creditable work; 1 and 2 failing; and 9 and 10 work of excellent character.

How are these decile positions used in order to measure student achievement in this course? For each student the decile positions on ten tests are totaled and averaged. A distribution surface of the averaged decile positions of all students makes possible the translation of these into grades ('per cents') by using approximately the 1, 5, 14, 30, 30, 14, 5, 1 per cents of the entire distribution. This procedure approximates the following 'per cents':*

...59, 6-64, 65-74, 75-79, 80-84, 85-89, 90-94, 95...

The following diagram may make this step clearer:



x = final grades expressed as per cents.
y = frequency of averaged decile positions.

From the distributions thus obtained, the averages of 3.2 and 6.5 have been accepted tentatively as averages required for minimum grades of 60 per cent and of 80 per cent respec-

* Student grades in the University of Nebraska are reported in terms of per cents.

tively. It is hoped that soon averages of 3.8 and 7.0 may supplant those of 3.2 and 6.5 respectively.

The median scores achieved by 336 students upon these tests during the first semester of the current year are reported in Table III. In Table IV are presented the distribution of the averaged deciles of students during the first and second semesters in 1925-26 (tests, twelve in number) and of the first semester in 1926-27 (tests, ten in number).

TABLE III.

MEDIAN SCORES WITH Q'S ON TESTS 1–10.

Test Number	*Median Score*	*Q*	*Maximum Score (possible)*
1	46.59	9.67	81
2	48.15	6.62	75
3	39.03	5.44	50
4	47.31	4.35	61
5	69.87	8.11	85
6	53.83	7.56	75
7	60.19	7.75	82
8	76.62	10.85	100
9	65.27	6.12	80
10	64.68	8.53	100

TABLE IV.

DISTRIBUTION OF AVERAGED DECILES.

	Frequencies		
Averaged Deciles	*Fall* 1925	*Spring* 1926	*Fall* 1926
2.0–2.4	0	1	1
2.5–2.9	2	3	1
3.0–3.4	2	10	8
3.5–3.9	9	13	29
4.0–4.4	9	21	28
4.5–4.9	16	25	43
5.0–5.4	32	29	31
5.5–5.9	31	25	44
6.0–6.4	30	28	24
6.5–6.9	31	31	31

7.0–7.4	26	24	29
7.5–7.9	20	25	17
8.0–8.5	13	16	22
8.5–8.9	11	7	13
9.0–9.5	4	2	9
9.5–9.9	1	0	3
N	237	260	336
Median	62.92	60.55	57.73
Q	9.86	11.74	12.46

The correlations (Pearson r) between the students' averaged deciles and their crude scores in (i) "the Army Group Examination Alpha" (for the semester closing in January, 1926), or on (ii) the "Otis Self-Administering Tests of Mental Ability—Higher Examination: Form A" (for the semester closing in January, 1927) are respectively:

$$r_{\text{Av. Deciles, Army Alpha Scores (12 tests)}} = .42$$

$$r_{\text{Av. Deciles, Otis Scores (10 tests)}} = .57$$

It is considered that the scores on the Otis test measure capacities of college students more accurately than do the scores on the Army Alpha test. Also the series of ten tests, being the result of the study of the correct and incorrect responses to the series of twelve tests, yield probably the more accurate measurement of student achievement of students in this beginning course in Educational Psychology. Thus the correlation of .57 between these students' achievement and their intelligence rating being positive and fairly marked is indicative of their rather close relationship, though not sufficiently close to allow prediction of their achievement from their intelligence scores.

Difficulty of Elements.

In the study of student errors the method of "proportion-of-students-solving" was used. Consequently the number of incorrect responses to each element of a test form on all tests was obtained. These data were, in part, the bases for reorganizing the twelve tests used in 1925-26 into the series of ten tests which are being used during this year 1926-27. Upon rearranging the elements of certain true-false forms according to increasing difficulty, as determined by the per cents of student errors made in responding to these statements in 1925-26, we found that the statements which should have been judged as incorrect statements in general presented greater degrees of difficulty to the students. For example, the rearranged order presented the first five of the fifteen true-false statements in Test 6 as true and the last six as false statements; of the twenty-five statements in Test 7, eight true statements appeared at the beginning of this form, while eight false statements appeared at the latter part of this form. It thus appears among the statements confronting them the students found it more difficult to judge accurately those statements which were stated incorrectly. Furthermore, we are finding that the relative difficulties which these elements are now presenting are closely comparable to those found in 1925-26.

Difficulty of Forms.

The number of incorrect responses to the elements is the basis upon which we are attempting to determine the relative difficulties of the forms included as parts of these tests. The findings may indicate what weights should be assigned so that the total score may be more accurately obtained from the subscores (or scores upon the separate test forms). It seems that the 'difficulty credit' for each test form may be determined by the ratio of the actual number of errors to the possible number of errors, using the formula:

$$\text{Difficulty Credit} = \frac{\text{Total Number of Errors}}{(\text{Number of Students})\ (\text{Number of Test Form Elements})}$$

The resulting difficulty credits for each test form are reported in Table V, with the arithmetic mean and the geometric mean as computed for each test form for the series of ten tests.

TABLE V.

DIFFICULTY CREDITS FOR TEST FORMS.

Test Number	*True-False*	*Multiple Choice*			*Cross-Out*
		Completion	*Underlining Best Answer*	*Matching*	
1	.1848	.3642			
2	.2179			.3733	.2426
3	.1243				
4	( )	.1433			
5	.0975		.1897 (U)		
6	.1613		.2500 (U)		
7	( )	.3993		.1413	
8	.1450		.1749 (U)		
9	.1921	.1394			
10	.1298		.1850 (B. Ans.)		
Arith. Mean	.156	.262	.192	.257	.242
Geom. Mean	.152	.232	.198	.229	.242
Suggested Weighting	2	4	3	4	4

Reference to Table V shows that, although the use of the geometric mean is desirable, since the data are expressed as ratios, the arithmetic mean may serve us in this instance, as in three cases it is slightly higher, and in one case slightly lower, than the corresponding geometric mean. Therefore the student responses to these tests during the past semester indicate the relative weightings of the separate forms of the tests in this series should be equivalent, whether based upon the arithmetic or geometric mean of the difficulty credits for each form. These relative weightings may be assigned as two, three, or four points to be subtracted for each incorrect response respectively to elements of true-false, multiple choice,

or completion and matching and cross-out test forms. These are tentative weightings only; the changed weightings will be dependent upon the results during the two semesters of this year,—i. e., as a result of the responses of more than 700 students upon each test of this series.

JUSTIFYING RESPONSES TO TRUE-FALSE ELEMENTS.

A further question arises in connection with the true-false forms of Test 4 and of Test 7. The students were asked to respond to each of these statements according to our usual directions. In addition, the further directions were: "Justify your responses by writing, in not more than fifteen words, what would make each false statement a true statement. Do not justify your responses to statements judged as true statements." The pertinent question arises: Does it pay to justify responses to these true-false elements? As 341 students responded to fifteen true-false statements in Test 4, there were 5,115 possibilities of correct or incorrect judgments and explanations. Of the 4,043 correct judgments, only 438 were combined with inaccurate or incomplete explanations or attempts to justify their judgments; the remaining erroneous judgments, 1072, were accompanied by incorrect or omitted explanations. In other words, of the 79 per cent of students who proved their abilities to judge these statements correctly, 89 per cent are able likewise to explain their decisions adequately. Similarly, in Test 7, of the 80 per cent of students who judged the statements correctly, 94 per cent were able to explain their decisions adequately. Although in general the students who were able to explain such statements are able likewise to judge these statements correctly, it seems advisable to continue this type of test, at least for the present; for, in spite of the much greater proportion of the period consumed in writing their justifications, these tests seem to be the means, through contrast, of revealing to the students their own lessening fear of or antipathy to, and their increasing satisfaction in responding to tests objective in character.

CONCLUSIONS.

1. These objective tests, used as a means toward realizing the aims of this beginning course in Educational Psychology, are proving of value as instruments for measuring student achievement, as shown by the nature and number of student responses to these tests.

2. Student achievement, determined by the averages of deciles earned by individuals on ten tests, is approximately normally distributed and correlates rather closely (.57) with student intelligence as measured by scores on the Otis test.

3. Analysis of student responses revealed the relative difficulties of: (1) the several forms of these objective tests, (2) the elements included in a particular form, and (3) the comparison between student successes in judging true-false statements and in stating their reasons therefor. There is now in progress a study of comparative achievement of students by classes.

Education

Up from the jungle where ruffian fevers stalk,
Up from the churlish cave whose lean broods freeze,
Up from the sties of unleashed, fleshly vice,
Even up from these.

Up to the hills that sentinel the world,
Up to the mountains where the prophets trod,
Up to the stars renewed with throbbing flame,
Even up to God.

—LINDA RIDER, Berkeley, California.

Do Teachers' Marks Vary as Much as Supposed?

FREDERICK E. BOLTON, UNIVERSITY OF WASHINGTON, SEATTLE.

DURING the last few years a great deal has been written and more expressed orally regarding the unreliability of grades assigned by teachers to pupils' examination papers. Starch was the first one to command attention to the variability of marks assigned by different teachers to a given examination paper. He wrote (Educational Psychology, p. 426): "The manner in which marks are distributed to pupils varies enormously from teacher to teacher and from school to school. No one realized the seriousness of the situation until specific tabulations and comparisons were made. . . . A more direct and crucial method of examining the variations of teachers' marks than the tabulation of the grades as distributed by different teachers is to measure experimentally the differences in the values assigned by different teachers to the same pieces of work.

"Starch and Elliott ('12 and '13) made a series of investigations in which two final examination papers in first-year-high-school English were graded by 142 English teachers in as many high schools, one final examination paper in geometry was graded by 118 teachers of mathematics, and one final examination paper in American history was graded by 70 teachers of history. The variations of these marks are shown in Figures 87, 88, 89 and 90. (Educational Psychology, p. 434.) The differences are astounding; the marks for any given paper run practically over the entire range of the percentage scale ordinarily used. The marks of the first English paper run all the way from 64 to 98, of the second English paper from 50 to 98, of the geometry paper from 28 to 92, and of the history paper from 43 to 90.

"This investigation has established two conclusions: first, that teachers differ enormously in evaluating the same pieces of work in terms of the ordinary percentage scale; and second, that they differ as much in one subject as in another. They disagree as much in evaluating a paper in mathematics as in English or history. Apparently mathematical papers are not marked with mathematical precision any more than any other papers are.

"The author (Starch) made a further investigation by having ten final papers in freshman English in the University of Wisconsin graded by ten instructors in freshman English. The marks are shown in the following table: (136). The variations shown in this table are practically as large as those found in the previous inquiry. It was thought that the wide range of marks shown in the first study might be due to the fact that the teachers were in different schools. However, Table

136 shows that teachers in the same department differ almost as much. Less extensive results obtained by having various members of a department grade the same paper, show that as much variation exists in other subjects as in English."

On the basis of Starch's conclusions similar tests have been made a good many times. A given examination paper is selected and duplicates mimeographed. The duplicates are then distributed to a heterogeneous group. Sometimes this group is a teachers' institute and the assumption is made that here is a quite homogeneous group—all teachers. But it should be remembered that they are of all ages from eighteen to sometimes eighty. They vary in experience; their everyday work may vary from teaching beginners to read to administering a school system with a hundred teachers; some teach one subject, some many others; some have had real professional training, some absolutely none. Possibly not one tenth of those marking the paper have had experience in marking papers in that subject and many are so rusty in the facts of that subject as not to know the answers to the questions themselves.

In the group probably only a small proportion are teaching that particular subject. None in the group know the exact conditions leading up to the examination nor the conditions under which the examination was given. No one of the markers has any interest in the justice of the marks such as there would be if one's grade given to a pupil should be scrutinized by the pupil and challenged if not reasonably accurate. Doubtless under such conditions many would make poor guesses or mark very carelessly. Is it any wonder that variations in the marks assigned should appear?

The writer has been very skeptical regarding the conclusions drawn from such procedure and recently devised an experiment to test the validity of the conclusion that there is no reliance to be placed upon teachers' marks. An attempt was made to secure everyday work and to have teachers feel a certain responsibility for the grades assigned. Teachers giving instruction in the content of the examination were purposely selected instead of a heterogeneous group.

Through the cooperation of Assistant Superintendent Willard and twenty-two teachers in the Seattle schools* the study was made possible. A set of examination questions was made by a group of teachers in the sixth grade upon arithmetic work that they were actually teaching to their classes. The

* Grateful acknowledgment is hereby expressed to all who participated in the study.

teachers were asked to construct a set of questions that would fairly test their pupils for promotion upon the given portion of the work covered. They did not know the exact purpose of the test. The tests were then given by the teachers and the entire set of papers was sent to the writer. From each set one paper was taken. These were selected by taking number one from the first set, number two from the second set, number three from the third set, etc. The papers had been numbered by the pupils without reference to the rank of the pupil based on the merit of the paper,—probably in order of seating. In this way typical samples were secured. The twenty-four papers bound together in convenient form were then returned and each teacher was asked to grade all of the papers placing the marks upon the tabulation sheet and not upon the examination paper. They were sent in turn to each of the teachers who marked each answer. Each of the ten questions was assigned ten points if correct. The tabulation sheet was then given to Mr. Willard so that no teacher knew the rating given by any other teacher. They were asked to grade the papers just as if promotion depended upon them. Twenty-two teachers graded each of the twenty-four papers.

The following letter was sent to each teacher who participated in the study:

SEATTLE PUBLIC SCHOOLS

"Dr. Bolton, of the University, desires our co-operation in a study of pupils' grades. Would you not be interested in assisting to make this study possible?

We are asked to give a test in arithmetic to a limited number of 6A classes next week, Wednesday or Thursday. It will be necessary for each teacher who assists in this work to give the test, grade the papers of her own pupils, and grade one additional set of about twenty papers. The grades, however, are not to be indicated on the test papers, nor will names of pupils or schools appear on the papers. There will be no comparison of the grades or groups involved. The purpose of the study is to determine the degree of difficulty in grading the answers to the different questions submitted.

Participation is voluntary. This letter is to ask if you would like to be counted among those who volunteer to give the test. If you receive this letter in time to permit you to send a reply when someone from your building comes to the office for mail Thursday, such early response will be appreciated.

Full directions will be sent out to those who join in the work.

Yours very truly,

F. E. WILLARD."

Below are given the questions included in the examination:

SEATTLE PUBLIC SCHOOLS.

6A ARITHMETIC TEST.
April 23, 1925.
(Write the questions on the blackboard)

1. Write as common fractions or mixed numbers, then as decimals:
   twenty-six hundredths
   six thousandths
   six, and twenty-three hundredths
   seventy-nine, and four thousandths
2. At 1½ cents each, how many papers can a newsboy buy for 21 cents?
3. Imagine yourself the purchaser of the following bill of goods, bought of Piper and Taft, Seattle, Washington. Make out the bill, find amount, and receipt the bill.
   14 scout belts @ 50c
   8 flash lights @ 75c
4. All the grades in an arithmetic test of a class of 25 pupils added up to 2125. What was the class average?
5. A carpenter worked 4½ days one week and 5¼ days the next week. If he received $7.50 a day, how much did he earn?
6. A lot is 36 feet wide and 42 feet long. What will it cost to fence it at 16½ cents a foot?
7. A box of 84 apples sold at 40 cents a dozen. How much was received?
8. (a) 38¼ ÷ 4½, Divide as mixed numbers.
   (b) Express the numbers as decimals and divide.
9. A boy earns $2.75 a week and spends $1.50, placing the remainder in the bank. If he banks the same amount each week, what will his bank account amount to in 19 weeks?
10. Add: 8 yd. 17 in.
    2 yd. 8 in.
    1 yd. 19 in.

The accompanying instructions were given to the teachers to observe in giving the examination:

SEATTLE PUBLIC SCHOOLS

DIRECTIONS FOR GIVING 6A ARITHMETIC TEST

1. Use punched tablet paper and pencils.
2. Let the class number, 1, 2, 3, 4, 5, 6, 7, etc., consecutively. Each pupil should place his number in the upper right hand corner of his paper.
3. Pupils should use the following heading only for their papers: "Arithmetic, 6A—April 23, 1925." Name of pupil and school should not appear.
4. This is not a limited time test, but it should not occupy more than the regular arithmetic period of forty or fifty minutes.
5. Grade the papers in your usual way on the basis of ten points for each question, using the accompanying sheet for reporting. Make no marks on the papers. Grade only the papers that are completed; discard the incomplete.
6. Send the test papers and grades to this office by April 27th. The outside of the package should have the name of the school or teacher to enable this office to check the schools reporting."

TABLE I.

Grades Assigned by Twenty-Two Seattle Teachers to Twenty-four Sixth Grade Arithmetic Test Papers.

Pupil	TEACHERS																					Av. of all Teachers
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	86	91½	85½	95	88	88	92	88¾	87	90	90	92	89	100	80½	95	77½	92	83¾	85	87½	87½	88.7
2	87	89½	90	80	88	83	88	83¾	90	82	87½	75	90	85	81	85	82½	81	90	80	85	87½	85.0
3	84	94½	90	95	70	90	85	90	89	85	90	88	90	90	89	90	90	90	90	90	90	90	88.7
4	58	71	60	60	55	50	65	60	67	45	55	43	70	65	62	50	55	58	55	50	62½	55	57.8
5	76	92	85	90	90	90	90	95	87	87	85	68	90	85	92	70	90	75	85	85	65	90	84.6
6	37	64½	57½	60	63	38	67	57½	62	61	52½	25	70	45	58½	30	52½	47	48¾	40	32½	52½	51.0
7	81	87	88	85	85	85	87	85	82	88	80	74	90	80	84	85	85	91	80	90	90	83	84.8
8	84	86½	93	90	85	75	90	85	90	85	80	73	90	75	87	85	85	79	85	90	85	85	84.7
9	94	97½	95	95	95	95	95	100	95	95	95	85	90	95	96	85	95	96	95	85	95	95	93.8
10	87	94	88	90	90	90	95	90	93	89	85	71	90	90	92	90	90	95	85	95	92½	90	89.6
11	76	80	78	80	80	80	80	75	71	75	80	78	80	80	76	80	80	66	75	80	75	80	77.5
12	90	86½	90	87½	88	90	88	88¾	87	90	90	84	90	88	87½	90	87½	84	88¾	85	87½	87½	88.0
13	70	81	75	80	75	75	68	75	58	83	80	46	55	85	74	65	75	69	80	70	57½	78	71.5
14	73	84	80	75	73	75	75	75	67	75	70	68	75	75	74	75	75	73	75	75	77½	72½	74.4
15	61	74	69¼	70	61	58	66	68¾	57	67	61¼	47	65	60	69½	60	56¼	60	61¾	65	61	60	62.7
16	89	97	88	95	90	90	97	90	82	96	85	89	86	95	85	85	90	94	95	95	92½	98	91.5
17	90	86½	88	85	83	53	84	83¾	78	81	77½	61	95	82	78½	60	82½	73	92½	80	57½	82½	78.9
18	73	87½	91	85	75	75	70	75	79	75	75	76	80	75	77	70	75	85	75	80	85	75	77.9
19	53	64	60½	62½	53	56	64	47½	44	57	51¼	38	78	52	48½	42½	37½	54	52½	60	40	51	53.5
20	58	66	71	60	56	54	54	52½	50	60	55	43	57	55	47	55	50	54	55	55	51	58	55.3
21	74	85	78	85	70	60	84	70	73	88	80	48	83	80	70	70	80	75	80	80	55	80	74.5
22	44	54	40	53½	46	35	48	46¾	39	48	41¼	41	58	51	..	42½	43¾	51	40	40	37½	46	45.1
23	65	70	63¾	75	68	68	72	68¾	54	64	63¾	43	69	65	72	60	72½	65	67½	70	47½	72½	65.3
24	29	47	26	35	23	20	44	22½	38	24	23¾	22	18	23	..	20	25	38	27½	25	17½	22½	27.2

A tabulation of all grades assigned is given in Table I. The answers are given in percents or points, each perfect paper counting 100 points or per cent. When the table is scanned hastily it will be seen that there appears to be much more uniformity than diversity in the answers. A novice could take the complete tabulation sheet and tell at a glance which pupils were probably uniformly good pupils in this subject, which uniformly poor and which uniformly average. One entirely unacquainted with the pupils could quickly tell at a glance which pupils should be promoted and those that were entirely unprepared to be promoted. Illustration of the high grade pupils are found in numbers 1, 3, 8, 9, 10, 12, and 16; of the very poor in numbers 4, 6, 15, 19, 22, 24; of the unquestionably good ones in numbers 2, 7, 11, 17; of those on the border line about whom one would need further information in numbers 13, 14, 21, and 23.

In order not to be deceived by a cursory examination, however, a careful analysis was attempted. The average of all the teachers' ratings for each paper was computed. Those averages are found in the last column of Table 1. Then each teacher's rating was compared with the total average and the deviations arranged in Table II.

A glance at the distribution, table (II), of variations from the average, discredits entirely the assertion that there is no uniformity in marks. Out of 526 ratings of the 24 papers 451 or approximately 86 per cent vary not more than 10 per cent; over 94 per cent vary 15 per cent or less, leaving only 6 per cent with any considerable variation. Approximately 61 per cent vary five per cent or less, and nearly 75 per cent vary seven per cent or less. In fact, over one per cent show no variation, about 16 per cent vary one per cent or less, 31 per cent vary two per cent or less, nearly 50 per cent vary three per cent or less, nearly 56 per cent vary four per cent or less and 61 per cent depart only five per cent or less. The average of all variations of 526 ratings is only 5.1 per cent.

To portray these facts more easily and vividly a table (III) is given showing the distribution of the individual deviations. From that table one would scarcely assert that the variations are so great that there is utter lack of reliability. The bulk of the variations are so slight that it is the uniformity that is striking rather than the diversity. The columns show the number of points or per cent by which each instructors' rating of each paper deviated from the combined average of all the ratings of the same paper. Note the number of cases (72) in which the deviation was less than one per cent; 148 cases less than 2 per cent; 235 cases less than 3 per cent, etc.

TABLE II.

Individual Deviations from the Average of Twenty-Two Teachers' Grades Assigned to Twenty-Four Examination Papers in Sixth Grade Arithmetic.

Pupil	Teachers																						Av. of all Teachers
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	
1	2.7	2.8	3.2	6.3	0.7	0.7	3.5	0.0	1.7	1.3	1.3	3.3	0.3	11.3	8.2	6.3	12.2	3.3	4.0	3.7	1.2	1.2	3.6
2	1.0	6.5	0.5	10.0	3.0	3.0	7.0	3.7	2.0	5.0	5.0	7.0	4.0	15.0	4.5	0.0	2.5	2.0	5.0	5.0	0.0	2.5	4.3
3	4.7	5.8	1.3	6.3	18.7	2.3	3.7	1.3	0.3	6.7	1.2	13.7	1.3	1.3	0.3	1.3	1.3	1.3	1.3	1.3	1.3	1.3	3.5
4	0.2	13.2	2.2	2.2	2.8	7.8	7.2	2.2	9.2	12.8	2.8	14.8	12.2	7.2	4.2	7.8	2.8	0.2	2.8	7.8	4.7	2.8	5.9
5	8.6	7.4	0.4	5.4	5.4	5.4	5.4	10.4	2.4	2.4	0.4	18.6	5.4	0.4	7.4	14.6	5.4	9.6	0.4	0.4	19.6	5.4	6.4
6	14.0	13.5	6.5	9.0	12.0	13.0	16.0	6.5	11.0	10.0	1.5	26.0	19.0	6.0	7.5	21.0	1.5	4.0	2.3	11.0	18.5	1.5	10.5
7	3.8	2.2	3.2	0.2	0.2	0.2	2.2	0.2	2.8	3.2	4.8	10.8	5.2	4.8	0.8	0.2	0.2	6.2	4.8	5.2	5.2	1.8	3.1
8	0.7	1.8	8.3	5.3	0.3	9.7	5.3	5.3	5.3	5.3	4.7	11.7	5.3	9.7	2.3	5.3	5.3	5.7	5.3	5.3	5.3	5.3	5.4
9	0.2	3.7	1.2	1.2	1.2	1.2	1.2	6.2	1.2	1.2	1.2	8.8	3.8	1.2	2.2	8.8	1.2	2.2	1.2	8.8	1.2	1.2	2.7
10	2.6	4.4	1.6	0.4	0.4	0.4	5.4	0.4	3.4	0.6	4.6	18.6	0.4	5.4	6.4	0.4	0.4	5.4	4.6	5.4	2.9	0.4	3.4
11	1.5	2.5	0.5	2.5	2.5	2.5	2.5	2.5	6.5	2.5	2.5	0.5	2.5	2.5	1.5	2.5	2.5	11.5	2.5	2.5	2.5	2.5	2.8
12	2.0	1.5	2.0	0.5	0.0	2.0	0.0	0.7	1.0	2.0	2.0	4.0	2.0	0.0	0.5	2.0	0.5	4.0	0.7	3.0	0.5	0.5	1.4
13	1.5	9.5	4.5	8.5	3.5	3.5	3.5	3.5	13.5	11.5	8.5	25.5	16.5	13.5	2.5	6.5	3.5	2.5	8.5	1.5	1.4	6.5	7.8
14	1.4	9.6	5.6	0.6	1.4	0.6	0.6	0.6	7.4	0.6	4.4	6.4	0.6	0.6	1.6	0.6	0.6	1.4	0.6	0.6	3.1	1.9	2.3
15	1.7	11.3	6.5	7.3	1.7	4.7	3.3	6.0	5.7	4.3	1.5	15.7	2.3	2.7	6.8	2.7	6.5	2.7	1.0	2.3	1.7	2.7	4.6
16	2.5	5.5	3.5	3.5	1.5	1.5	5.5	1.5	9.5	4.5	6.5	2.5	2.5	5.5	3.5	6.5	1.5	2.5	3.5	3.5	1.0	7.5	3.9
17	11.1	7.6	9.1	6.1	4.1	25.9	5.1	4.8	0.9	2.1	1.4	17.9	16.1	3.1	0.4	18.9	3.6	5.9	13.6	1.1	21.8	3.6	8.4
18	6.9	9.6	13.1	7.1	2.9	2.9	7.9	2.9	1.1	2.9	2.9	1.9	0.1	2.9	0.9	7.9	2.9	7.1	2.9	0.1	7.1	2.9	4.4
19	0.5	10.5	7.0	9.0	0.5	2.5	10.5	6.0	9.5	3.5	2.3	15.5	24.5	1.5	5.0	11.0	16.0	0.5	1.0	6.5	13.5	2.5	7.2
20	2.7	10.7	15.7	4.7	0.7	1.3	1.3	2.8	5.3	4.7	0.3	12.3	1.7	0.3	8.3	0.7	5.3	1.3	0.7	0.7	4.3	2.7	4.0
21	2.3	13.3	6.3	13.3	1.7	11.7	12.3	1.7	1.3	16.3	8.3	23.7	11.3	8.3	4.5	1.7	8.3	3.3	8.3	8.3	16.7	8.3	8.5
22	0.9	10.9	3.1	10.4	2.9	8.1	4.9	3.6	4.1	4.9	1.9	2.1	14.9	7.9	..	0.6	0.6	7.9	3.1	3.1	5.6	2.9	4.7
23	3.9	8.9	2.6	13.9	6.9	6.9	10.9	7.6	7.1	2.9	2.6	18.1	7.9	3.9	6.7	1.1	11.4	3.9	6.4	8.9	13.6	11.4	7.3
24	3.2	21.2	0.2	9.2	2.8	5.8	18.2	3.3	12.2	1.8	2.1	3.8	7.8	2.8	..	5.8	0.8	12.2	1.7	0.8	8.3	3.3	5.8

TABLE III.

Distribution of Individual Variations from the AverageGrades Given by Twenty-Two Seattle Teachers to Twenty-Four Sixth Grade Arithmetic Papers.

No. Cases	PER CENT OF VARIATION.																										
	0	0-1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13	13-14	14-15	15-16	16-17	17-18	18-19	19-20	21-22	23-24	24-25	25-26	26-27
1	0.0	0.7	1.7	2.7	3.2	4.0	5.0	6.3	7.0	8.2	9.2	10.0	11.3	12.2	13.7	14.8	15.0	16.0	17 9	18.7	19.6	21.0	23.7	24.5	25.9	26.0
2	0.0	0.7	1.3	2.8	3.5	4.0	5.0	6.3	7.0	8.6	9.6	10.4	11.0	12.8	13.2	14.6	15.7	16.5		18.6	19.0	21.8			25.5	
3	0.0	0.3	1.3	2.0	3.3	4.5	5.0	6.5	7.8	8.3	9.0	10.0	11.0	12.2	13.5	14.0	15.5	16.1		18.5		21.2				
4	0.0	0.5	1.2	2.5	3.3	4.7	5.0	6.3	7.2	8.8	9.7	10.8	11.7	12.0	13.0	14.0	15.7	16.0		18.6						
5	0.0	0.3	1.2	2.0	3.7	4.2	5.8	6.7	7.2	8.8	9.7	10.5	11.5	12.3	13.5	14.9		16.3		18.9						
6	0.0	0.3	1.0	2.5	3.0	4.7	5.4	6.5	7.8	8.8	9.5	10.5	11.5	12.3	13.5			16.7		18.1						
7		0.2	1.3	2.3	3.0	4.0	5.4	6.5	7.8	8.5	9.6	10.7	11.3	12.2	13.6					18.2						
8		0.2	1.3	2.2	3.7	4.8	5.4	6.0	7.4	8.5	9.5	10.9	11.1	12.2	13.1											
9		0.4	1.2	2.2	3.7	4.8	5.4	6.2	7.4	8.5	9.1	10.4	11.0		13.5											
10		0.4	1.3	2.8	3.8	4.8	5.4	6.2	7.5	8.3	9.6	10.9	11.3		13.3											
11		0.4	1.3	2.2	3.2	4.7	5.4	6.4	7.4	8.3	9.0		11.4		13.3											
12		0.4	1.3	2.8	3.2	4.4	5.4	6.5	7.3	8.3	9.5		11.4		13.9											
13		0.4	1.3	2.8	3.7	4.6	5.2	6.5	7.5	8.3	9.2				13.6											
14		0.2	1.3	2.8	3.8	4.6	5.2	6.5	7.6	8.3																
15		0.2	1.3	2.8	3.4	4.0	5.2	6.4	7.1	8.3																
16		0.2	1.3	2.4	3.0	4.0	5.3	6.5	7.9	8.3																
17		0.2	1.3	2.4	3.5	4.5	5.3	6.0	7.9	8.1																
18		0.8	1.3	2.3	3.5	4.4	5.3	6.8	7.1	8.9																
19		0.2	1.5	2.2	3.5	4.7	5.3	6.5	7.1	8.9																
20		0.2	1.5	2.2	3.5	4.3	5.3	6.5	7.0	8.3																
21		0.7	1.5	2.8	3.5	4.5	5.3	6.5	7.9																	
22		0.3	1.8	2.3	3.1	4.1	5.3	6.1	7.9																	
23		0.2	1.2	2.2	3.3	4.8	5.3	6.9	7.6																	
24		0.4	1.2	2.2	3.5	4.7	5.7	6.0	7.1																	
25		0.4	1.2	2.6	3.5	4.7	5.3	6.5	7.9																	
26		0.4	1.2	2.9	3.5	4.3	5.3	6.3	7.8																	
27		0.4	1.2	2.5	3.5	4.9	5.3	6.9																		
28		0.6	1.2	2.5	3.5	4.1	5.3	6.9																		
29		0.4	1.2	2.5	3.1	4.9	5.4	6.4																		
30		0.4	1.2	2.5	3.6	4.5	5.4	6.7																		
31		0.4	1.2	2.5	3.6		5.4																			
32		0.4	1.2	2.5	3.5		5.4																			
33		0.5	1.2	2.5	3.3		5.6																			
34		0.5	1.2	2.5	3.1		5.7																			
35		0.5	1.2	2.5	3.6		5.5																			
36		0.7	1.6	2.5	3.1		5.5																			
37		0.5	1.5	2.5	3.1		5.5																			
38		0.5	1.5	2.5	3.9		5.1																			

| | | |

Undoubtedly, the foregoing markings are sufficiently accurate to place any individual pupil in his proper position. Probably few pupils would be unjustly treated if passed or not passed by the rating of any one of the teachers. It might be that in a single test a given teacher would mark a little too low or in another test a little too high but in the combined ratings for a whole year all except a very occasional teacher would mark accurately enough to determine promotion or failure. Almost every teacher would also indicate fairly justly the place in the scale,—high, low, or medium, where the pupil belongs. The combined ratings of all the teachers in all subjects doubtless also reveal with sufficient accuracy whether a pupil should pass from the grammar school to the high school; from the high school to college; or graduation from college. What more is necessary?

The greatest variation in this study is found in the case of poor pupils. Evidently many teachers are more in doubt about the low grade pupils than the high grade ones and sometimes give those low grade ones the benefit of the doubt. In other cases they evidently recognize that the pupil deserves a grade below passing and grade the paper hastily, knowing that the grade will be below passing anyway and consequently seem to think it will not make much difference whether the grade is a little below or very far below. The ratings show very great uniformity in the case of high grade and medium pupils.

After the study of the grades as a whole was made three papers were then selected at random and all the grades for each of the ten questions were assembled in Table IV. This was done for the purpose of examining the grades assigned to individual problems. Two of the papers happen to be from among the very good ones and the third is one of the very poor ones. Inspection of the table reveals remarkable uniformity in the rating of each question by the different teachers. In nine cases out of thirty complete sets of answers all teachers agreed upon all of the answers.

In 198 out of 660 individual ratings there was complete agreement. In 286 other individual ratings there were only 30 variants and those in most cases of very small amounts, in fact, averaging only 4 points in each case. These spread over the 286 judgments involving 2860 points mean that there was a variation of only .54 per cent. Most of the variation is therefore seen to be in a relatively small number of cases.

TABLE IV.

Grades Given to Each Answer on Three Sixth Grade Arithmetic Papers by Twenty-Two Seattle Teachers.

Problems	Teachers 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Av. of all Teachers
											PUPIL A												
1	7	7½	7½	10	8	8	7	8¾	10	10	10	8	9	10	7	5	7½	8	8¾	5	7½	7½	8.0
2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
3	9	9	8	10	10	10	10	10	7	10	10	9	10	10	9	10	10	10	5	10	10	10	9.0
4	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
5	0	5	0	5	0	0	5	0	5	0	0	5	0	10	0	0	0	5	0	5	0	0	2.0
6	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	0	10	10	10	10	10	9.5
7	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
8	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	9	10	5	10	10	9.6
9	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
10	10	10	10	10	10	10	10	10	5	10	10	10	10	10	10	10	10	10	10	10	10	10	9.8
											PUPIL B												
1	7	7½	10	5	8	8	7	8¾	5	8	7½	7	10	5	7	5	7½	8	10	5	7½	7½	7.3
2	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
3	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
4	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
5	10	10	10	10	10	10	10	10	10	10	10	5	10	10	10	10	10	8	10	10	7½	10	9.5
6	0	5	0	0	0	0	3	0	5	0	0	0	0	0	0	0	0	0	0	0	5	0	0.8
7	10	10	10	10	10	10	10	10	10	10	10	5	10	10	10	10	10	10	10	10	10	10	9.8
8	10	7	10	5	10	5	8	5	10	5	10	10	10	10	10	10	5	5	10	5	5	10	8.0
9	10	10	10	10	10	10	10	10	10	10	10	8	10	10	10	10	10	10	10	10	10	10	9.9
10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10.0
											PUPIL C												
1	5	1	0	5	3	0	2	2½	8	2	3¾	7	8	3	Not graded by No. 15		5	5	2	2½	0	2½	2½	3.2
2	0	0	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0.0
3	4	6	8	0	0	0	4	0	3	2	0	5	0	0			0	0	5	5	0	5	0	2.1
4	10	10	10	10	10	10	10	10	5	10	10	5	10	10			5	10	10	10	10	5	10	8.6
5	0	5	8	5	0	0	8	0	5	0	0	0	0	0			0	0	8	0	5	0	0	2.0
6	0	5	0	0	0	0	0	0	2	0	0	0	0	0			0	0	0	0	0	0	0	0.3
7	0	5	0	5	0	0	10	0	5	0	0	0	0	0			0	0	5	0	0	0	0	1.4
8	0	2½	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0.1
9	10	10	0	10	10	10	10	10	10	10	10	5	0	10			10	10	8	10	10	5	10	8.1
10	0	2½	0	0	0	0	0	0	0	0	0	0	0	0			0	0	0	0	0	0	0	0.1

TABLE V.

Deviations from the Average of the Grades Assigned by Twenty-Two Seattle Teachers to Each of the Answers in Three Sixth Grade Arithmetic Papers.

Pupil	TEACHER 1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	Average Variations
1	1.0	0.5	0.5	2.0	0.0	0.0	1.0	0.7	2.0	2.0	2.0	0.0	1.0	2.0	1.0	3.0	0.5	0.0	0.7	3.0	0.5	0.5	1.1
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	1.0	1.0	1.0	1.0	1.0	1.0	2.0	1.0	1.0	0.0	1.0	1.0	0.0	1.0	1.0	1.0	5.0	1.0	1.0	1.0	1.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0	3.0	2.0	2.0	3.0	2.0	8.0	2.0	2.0	2.0	3.0	2.0	3.0	2.0	2.0	2.6
6	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	9.5	0.5	0.5	0.5	0.5	0.5	0.9
7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
8	0.4	0.4	0.4	0.4	0.4	0.4	1.6	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.4	4.6	0.4	0.4	0.6
9	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
10	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	4.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4
1	0.3	0.2	2.7	2.3	0.7	0.7	0.3	1.4	2.3	0.7	0.2	0.3	2.7	2.3	0.3	2.3	0.2	0.7	2.7	2.3	0.2	0.2	1.2
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	4.5	0.5	0.5	0.5	0.5	0.5	1.5	0.5	0.5	2.0	0.5	0.8
6	0.8	4.2	0.8	0.8	0.8	0.8	2.2	0.8	4.2	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	4.2	0.8	1.3
7	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	4.8	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.4
8	2.0	1.0	2.0	3.0	2.0	3.0	0.0	3.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	2.0	3.0	3.0	2.0	2.2
9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.9	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
10	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	00.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1	1.8	2.2	3.2	1.8	0.2	3.2	1.2	0.7	4.8	1.2	0.5	3.8	4.8	0.2	..	1.8	1.8	1.2	0.7	3.2	0.7	0.7	1.9
2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	..	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3	1.9	3.9	5.9	2.1	2.1	2.1	1.9	2.1	0.9	0.1	2.1	2.9	2.1	2.1	..	2.1	2.1	2.9	2.9	2.1	2.9	2.1	2.3
4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	1.4	3.6	1.4	1.4	3.6	1.4	1.4	..	3.6	1.4	1.4	1.4	1.4	3.6	1.4	1.8
5	2.0	3.0	6.0	3.0	2.0	2.0	6.0	2.0	3.0	2.0	2.0	2.0	2.0	2.0	..	2.0	2.0	2.0	2.0	3.0	2.0	2.0	2.6
6	0.3	4.7	0.3	0.3	0.3	0.3	0.3	0.3	1.7	0.3	0.3	0.3	0.3	0.3	..	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.6
7	1.4	3.6	1.4	3.6	1.4	1.4	8.6	1.4	3.6	1.4	1.4	1.4	1.4	1.4	..	1.4	1.4	1.4	1.4	1.4	1.4	1.4	2.1
8	0.1	2.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	..	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2
9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	1.9	3.1	8.1	1.9	..	1.9	1.9	1.9	1.9	1.9	3.1	1.9	2.3
10	0.1	2.4	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	..	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2

In the analysis of the three papers a study was also made of the deviations from the average of the marks upon each answer by all of the teachers. Those facts are arranged in Table V. Had the median been taken the uniformity would have been even more striking. If the mode had been used the results would have been still more striking. Even with the use of the arithmetical average the variations are shown in the accompanying table (VI), to be few in number and small in amount. The distribution of the variations is set forth in the following condensed table.

TABLE VI.

Distribution of Variations from the Average of Grades Given by Twenty-Two Seattle Teachers to Each Answer in Three Sixth Grade Arithmetic Papers.

Variations	Number of Cases
0—0 points	206
From 0—1 points	250
" 1—2 "	114
" 2—3 "	48
" 3—4 "	14
" 4—5 "	11
" 5—6 "	3
" 6—7 "	0
" 7—8 "	1
" 8—9 "	2
" 9–10 "	1
	650

Of the 650 ratings 206 or 31.7 per cent did not deviate at all; 229 or 33.3 per cent deviated less than one point; 250 or 38.5 deviated only one point or less; 11.4 or 17.5 per cent varied from 1 to 2 points only; 48 ratings or 7 per cent varied from 2 to 3 points only. In fact, in 618 ratings, or 95 per cent, the deviation was 3 points or less.

A REVIEW OF STARCH'S EXPERIMENT

Even Starch's experiment in giving ten examination papers in English to ten instructors in the University of Wisconsin is not at all convincing. In the first place, it does not bear out his contention that there is a very wide variation. He says (Starch, Educational Psychology, p. 435): "The variations shown in this table are practically as large as those found in the previous inquiry."

For the purpose of comparison and further analysis Starch's table (VII) is here reproduced. In addition a table, (VIII) has been prepared, showing the individual deviations from the average of the marks given by the ten University

of Wisconsin instructors to ten examination papers in English.

As a matter of fact, barring two papers the marks were very uniform indeed. The average mean variation on all the papers was only 5.3 per cent; with the two extreme ones omitted the average mean variation was only 3.99 per cent. In either case it is the uniformity that is striking and not the dissimilarity. The greatest single variation was 32.6 per cent, one other was 26.6 per cent, another 24.1 per cent. Remember, however, that these are only three grades out of a hundred. In three cases the marks did not vary at all from the median, in fourteen cases less than 1 per cent; in thirteen cases only from 1 per cent to 2 per cent; in twelve more cases only from 2 per cent to 3 per cent; in ten more only 3 per cent to 4 per cent; in nine more only from 4 per cent to 5 per cent. In fact in 63 per cent of cases the variation from the mean was 5 per cent or less, and in 83 per cent of cases it was less than 10 per cent.

An examination of all the marks assigned reveals the fact that all the variations greater than 13 points were given by one instructor. His marks were in every case below the median, an average of 13.2 points below the median for all of the ten papers. Of the total of 514.7 points of deviation this instructor (No. 5) gave 132.3 points, one fourth of all. There is certainly something interesting discovered regarding the psychology of this instructor. Possibly he thought he was the only one observing high standards!

Table IX is subjoined to present quickly to the eye the distribution of the variations from the average of the marks

TABLE VII.

Marks Assigned by Ten Instructors to Ten Final Examination Papers in English.

Papers	1	2	3	4	5	6	7	8	9	10	Average	Mean of Var.	Coefficient Var.
1	85	86	88	85	75	80	88	87	85	87	84.6	2.8	.034
2	77	80	87	80	62	82	82	87	85	87	80.0	4.6	.057
3	74	78	78	75	69	84	91	83	79	80	79.1	4.4	.056
4	65	65	62	20	26	60	55	68	55	50	52.6	12.3	.233
5	68	82	78	82	64	88	85	86	78	80	79.1	5.7	.070
6	94	87	93	87	83	77	89	88	88	89	87.5	3.2	.036
7	88	90	95	87	79	85	96	91	87	89	88.7	2.6	.029
8	80	84	73	79	72	83	85	91	77	76	80.0	4.6	.058
9	70	70	68	50	44	65	75	81	79	79	68.1	9.1	.118
10	93	92	85	92	81	83	92	89	84	85	87.6	4.0	.045
Av.	79.4	81.4	79.8	73.7	65.5	78.7	83.8	85.1	79.7	80.2	78.7	5.3	.074

assigned by the University of Wisconsin instructors in English. The columns show the number of points or the per cent by which each rating varies from the average of all the instructors' marks. It is seen at a glance that most of the deviations cluster around very small numbers.

TABLE VIII.

Individual Variations from the Average of Ten University of Wisconsin Instructors' Grades Assigned to Ten Examination Papers in English. (Compiled from Starch, Educational Psychology, page 435.)

	Instructors										Mean of
Papers	1	2	3	4	5	6	7	8	9	10	Variability
1	0.4	1.4	3.4	0.4	9.6	3.4	3.4	2.4	0.4	2.4	2.8
2	3.0	0.0	7.0	0.0	18.0	2.0	2.0	7.0	5.0	7.0	4.6
3	5.1	1.1	1.1	4.1	10.1	4.9	11.9	3.9	0.1	0.9	4.4
4	12.4	12.4	9.4	32.6	26.6	7.4	2.4	15.4	2.4	2.6	12.3
5	11.1	2.9	1.1	2.9	15.1	8.9	5.9	6.9	1.1	0.9	5.7
6	6.5	0.5	5.5	0.5	4.5	10.5	1.5	0.5	0.5	1.5	3.2
7	0.7	1.3	6.3	0.7	9.7	3.7	7.3	2.3	1.7	0.3	2.6
8	0.0	4.0	7.0	1.0	8.0	3.0	5.0	11.0	3.0	4.0	4.6
9	1.9	1.9	0.1	18.1	24.1	3.1	6.9	12.9	10.9	10.9	9.1
10	5.4	4.4	2.6	4.4	6.6	4.6	4.4	1.4	3.6	2.6	4.0

TABLE IX.

Distribution of Individual Variations from the Average of Ten University of Wisconsin Instructors' Grades Assigned to Ten Examination Papers in English. In each column are indicated the amounts in per cents that each answer varies from the average of all instructors' marks.

Per Cent of Variation.													
0-0	0.1	1-2	2-3	3-4	4-5	5-6	6-7	7-8	8-9	9-10	10-11	11-12	12-13
0.0	0.4	1.4	2.4	3.4	4.1	5.0	6.9	7.0	8.9	9.6	10.1	11.9	12.4
0.0	0.4	1.1	2.4	3.4	4.9	5.1	6.5	7.0	8.0	9.4	10.5	11.0	12.4
0.0	0.4	1.1	2.0	3.4	4.5	5.9	6.3	7.0		9.7	10.9	11.0	12.9
		1.1	2.0	3.0	4.0	5.5	6.9	7.4			10.9		
	0.1	1.1	2.4	3.9	4.0	5.0	6.6	7.3					
	0.9	1.5	2.4	3.7	4.4	5.4		7.0					
	0.9	1.5	2.6	3.0	4.4								
	0.5	1.3	2.9	3.0	4.6								
	0.5	1.7	2.9	3.1	4.4								
	0.5	1.0	2.3	3.6									
	0.5	1.9	2.6										
	0.7	1.9	2.6					15-16	18-19	24-25	26-27	32-33	
	0.7	1.4											
	0.3							15.4	18.0	24.1	26.6	32.6	
	0.1							15.1	18.1				

Summary and Conclusions

1. An analysis of the marks assigned by the Seattle teachers on the given set of twenty-four sixth-grade arithmetic papers shows great uniformity of rating by the twenty-two teachers.

2. A re-analysis of the results of marking of ten freshman English examination papers submitted by Starch to ten instructors in English in the University of Wisconsin seems to show great uniformity instead of great diversity as maintained by Starch.

3. This study of new data combined with the re-study of some of Starch's data seems to discount entirely the belief that there is little or no uniformity in teachers' marks. If teachers giving instruction in the subjects and topics included in the examination mark the answers, very great uniformity is found.

4. The great uniformity of teachers' marks shown by the foregoing study seems to warrant the belief that there is very considerable reliability in teachers' marks.

5. Additional studies should be made in different subjects and in different communities, (a) in some cases having teachers in the same school system grade the papers, and (b) in other cases making comparisons of the grades assigned a given set of papers by teachers in two or more systems.

6. In all subsequent studies only teachers fresh on the subject and actually teaching the given work tested should be selected to grade the papers.

7. The selection of a heterogeneous group of persons to grade the papers should be ruled out as unscientific in the extreme.

8. In all probability there is sufficient reliability in teachers' marks to justify their continued use as a means of determining promotions in the grades or of graduation from the high school or college and for purposes of determining college entrance. When all the grades assigned to a pupil at all times in a given subject, and all the grades given by the different teachers in the pupil's school career are massed and a composite rating is secured undoubtedly it represents quite fairly the pupils past performance. Incidentally other studies go to show that such a composite is fairly prophetic of future accomplishment.

9. Has there not been altogether too much attention given to tests and markings during the last few years? The rank and file of teachers have been required to spend so much time on types of examinations and methods of marking that their entire attention has been badly diverted from gathering materials for teaching and studying best methods of instruction. Many seem obsessed with the idea that materials and methods of instruction are correct and that all energy must be put upon some methods of marking that will discover abilities and make possible the segregation of the "dumbbells" from the geniuses.

Youth

Thou art like Spring; now in thy youth's sweet prime,
And happy days, as servants, wait on thee,
Thou art Love's lord and master of his time,
And hold'st to Joy's rich treasure house the key;

All Nature was at cost to make thee fair,
And far exceeded what was Beauty's due;
Made rubies serve for lips, and gold for hair,
And for thine eyes took from the sea its blue;

But 'tis thyself that must thy mind adorn,
To make it sister to thy outward show,
Else art thou open to reproach and scorn
When beauty fades, for beauty soon must go,

Leaving thee like a house gone to decay,
For lack of what thou can'st not then repay.

—Dr. J. R. Clemens,
Webster Groves, Mo.

Character Education as Formal Discipline

HARRY PREBLE SWETT,

STATE NORMAL SCHOOL, PLYMOUTH, N. H.

IN most discussions of formal discipline some study is advocated as superior because it has a rich variety of forms, or universals, which are also involved in other studies. The study of Latin, for example, involves persistence, accuracy, and close discrimination. But it is not the Latin that is formal. When we think mathematically, we do not get very far unless we use persistence, accuracy, and discrimination, but the Latin is dropped in mathematics. Here the study of Latin is a particular that is not transferred; persistence, accuracy, and discrimination are forms that appear in all high intellectual endeavor.

With character education it is different. We speak of a person's character without reference to any particular study or act. This is because character is a universal idea that involves all human actions. Every study or act plays a part in producing character, and one's character plays a part in every study and act.

While character education is a general discipline involving all studies and activities, it can also be treated as a particular study. This is done in ethics; it is done when conduct in general is discussed in school in an assembly or in opening exercises; it is done when a child is chided for misbehavior. This paper is a particular discussion of character education considered as a general discipline. The purpose is to show that it is formal, or general, and wherein this formality consists.

The more or less interminable debate as to whether morals should be taught in school gets its interminableness from the

fact that moral training is regarded both as a general discipline and also as a particular study. As a general training we cannot get away from morals at any stage; as a particular study it has to be suited to conditions and to the age of the learner.

If character is really formal, it must involve a principle, or principles, that may be carried into every human endeavor. It is better, if possible, to select one principle rather than several. This one principle which is the form for character and for all educational activity is freedom.

Freedom is the formal principle of character education for two types of reasons. It is the fundamental principle of ethics; and it is also recognized as the fundamental principle of our national life. Freedom has thus both scientific and social sanction. This twofold support is requisite for an adequate popular education. If, for instance, some might think that education should be based upon evolution, or creative evolution, the "drive" of the concept of evolution would be weakened by its present unpopularity. But it is not so with the concept of freedom; the drive of our culture goes with it. Liberty is the most emphasized word in our fundamental charters. We have a holiday in its name. We place the word upon our coins. An educational system with freedom for its central principle has the solid foundation of reasoned conviction and popular belief.

The force which lies in this popular support, and which may be utilized in education, is equally manifest in connection with certain elements into which freedom may be analyzed. Freedom connotes purposes, and vigorous purposes require health of body and nerves. Freedom, to be worth anything, must display originality and must be associated with law to prevent its degenerating into license and anarchy.

Now, all of these characteristics of freedom, equally with the general notion, have contemporary social sanction. The wide interest in sports, professional and amateur, is indicative of an ideal of physical vigor. If the teacher believes that a

person of good character should have good health, that a free mind should have for its indispensable agent a sound body, he can find in contemporary life plenty of stimuli for his teaching.

Similarly, strong purposeful action is praised and rewarded. Conquerors of the wilderness are heroes in story; leaders of armies are elected to the presidency; able executives are sought and paid well for their services; captains of industry are allowed to amass their fortunes. For developing strong wills the national sentiment is at hand to be capitalized.

A pedagogy that would foster originality does not have to create a social situation out of nothing. We, as a people, like to think that we are inventive. We are proud of such men as Whitney, Fulton, Morse, and Edison, but equally so of the nameless multitude indicated by the thousands of patents issued by the government.

As to the last of the named elements, rational freedom requires wholeness of view, inclusion of all relevant particulars —law. Such a free person is of a high type, but the basic structure of our civilization is no less advanced. With the liberty of the individual goes the complement of law and order: *e pluribus unum*—the nation is one as well as many; liberty and union are one and inseparable.

Character education, based upon freedom, is thus seen by these references to our political and social ideals to be a fundamental training in citizenship.

To summarize up to this point: character is a form and its principle, theoretically, is freedom; freedom as a concept by itself, and in its separate element, is also the fundamental principle of our culture. Education, considered in its formal aspect, may develop its system and methods according to freedom with rational confidence and social support.

This brief general statement of education according to freedom simplifies matters too much, so far as actual conditions are concerned. It may seem to take for granted that our

education, from the very force of circumstances, is bound to be guided by principles of freedom and that, because freedom is at the foundation of our culture, our national life satisfactorily exemplifies its professed beliefs. The facts, however, are not so pleasing. Freedom both for education and for our civilization is an ideal to work with and to work for; but the ideal has not and does not become realized as a matter of course. It is not the nature of freedom to reach results from necessity. Indeed, so far as education goes, the assertion may be made that more schools in these free and independent states are conducted as benevolent despotisms than as communities of free individuals. And it does not need the mathematical analysis of a Galton to show that the plane of our civilization is far below what it ought to be according to our professed standards. There is much carelessness as to health—the prohibition situation is evidence enough of that; much action is purposeless or directed by inferior purposes; while originality is exhibited by some, many more let themselves be swayed by thoughtless imitation; and, as for law, there is, to say the least, sufficient crime and lawlessness to cause one to think that education might do better in the development of lawful citizens.

The selection of studies is largely a sociological affair, resulting from an analysis of contemporary culture. But the valuation of these studies depends upon the standard of education employed. Let it be asked: What type of subjects are the most practical in an education that aims first of all to develop independent individuality? In answering this, it has only to be said, logically, that the subjects are those wherein man has exhibited his greatest freedom and his greatest creativity. This is in the field of the fine arts, of which the major ones are architecture, sculpture, painting, music, and poetry. These are the most practical studies.

If one desires a first text on the principles of the fine arts, Matthew Arnold's essay on *The Study of Poetry* may be recommended. It is a classic by a master of one of the arts

on his own art. He names simplicity, greatness, truth and seriousness of matter and substance, and high beauty, worth, and power of manner and style. Add to these the principle of unity and one will have a good working list for understanding all the arts.

In teaching the fine arts, the purpose is not merely to impart knowledge, but to give the learner a command of the principles, so that he may himself act consistently, simply, truthfully, and seriously, in harmony with an appreciative sense of beauty. A character so directed is in the "grand style."

The pedagogical method by which great, purposeful, and original characters may be developed is found in that method by which man has done his creative work, in that method by which he has discovered what is great poetry, charming music, and beautiful painting. This is the method of trial and error, the method of human freedom. The refined system of trial and error is the scientific method by means of which so much has been accomplished in the last two centuries. The achievements have been most patent in theoretical and applied science, but the method is usable in all kinds of thinking.

This tool of independent thinking is so important that every person should know it. The classic statement of it by Copernicus is perhaps the most serviceable. This may be outlined in five steps: some observation, or experience, suggests a problem; in attempting to solve the problem, tentative plans, or hypotheses, are proposed; these hypotheses are then tried out in experimental ways; the labors of others are also made use of; finally, the hypotheses are rejected as unsound or accepted as good conclusions.

This scientific method can be made the basis of all school instruction and training. The steps especially to be emphasized are the problems in the mind of the learner (not the teacher) and the hypotheses, which are courageous explorations into the unknown future. By using the scientific method as a standard, proposed methods of instruction can be tested.

Problem-solving and project methods, for example, are at once seen to be fundamentally sound for developing independent individuals. *The still too common practice of placing subject-matter in a completed form before the learner for retention in memory is seen to be unsound for developing originality.*

Intelligent practice in trial and error, and in trial and success, will remove the fear of making mistakes and the fear of new ideas. If this training is begun with pupils in the grades, our nation will have adults that are fearless of new opinions. Our citizens will also ask persons who have nostrums, to give their evidence. We have now both too much intellectual quackery and too much fear of what is new. The reason is that there is a lack of intellectual freedom because of inexperience in testing the soundness of ideas.

In a very important aspect, education is inherently hostile to the development of this type of intellectually free characters. So far as subject-matter goes, much of education must always be a process of passing on the culture of the older generation to the younger. For the teacher the culture is old, not new; and there will always be a tendency, just as there always has been, to pass on the old without care as to the process, so long as the transmission seems to be made. But this narrow policy overlooks the fact that the transference of the finished achievements of former generations fails to transfer the mental vigor, ingenuity, and incentives that produced the achievements. And these mental qualities are worth more than the mere physical expressions. This partially explains why a brief period of creativeness in history may be followed by a long period of imitation. It is a clear warning for education.

For the learner, all of the old is new. It is an enormous field, like a new continent, which he may approach as a discoverer, sometimes, indeed, with the interest and the problems of the original achievers.

This thought suggests, for a final remark, a comment upon

conservatism. Persons that are intellectually and morally free are not capricious; they do not belittle the past, neither do they think that there are to be no giants in those days that are not yet. The ideal of independent character is not to be free from conditions, but to be able to control conditions, whether of the past, the present, or the future. Such a person judges according to all the factors that can be brought to bear upon a situation. Where his command of pertinent matter is insufficient, he is willing to take the advice of those whose knowledge and skill is more competent than his own.

To make a concluding summary, character affects all actions, and all phases of education affect character. This makes character education the real formal discipline. An ethical formal discipline is more general than a humanistic; it is at the same time more in harmony with our democratic civilization. The form, or universal principle, of character is freedom; and free persons have vigorous, original purposes which do not really conflict with the purposes of other persons, because all recognize justice, that is, law. This is the kind of character that a democratic education should produce, if, in the language of the Northwest Ordinance, all laws, constitutions, and governments are erected on the basis of the principles of civil and religious liberty.

Teaching the College Student "How to Study"

PAUL A. WITTY AND HARVEY C. LEHMAN,
THE UNIVERSITY OF KANSAS, LAWRENCE, KANSAS.

MOST educational authorities agree that one of the major duties of the teacher is that of teaching students how to study. Kelly has stated that mastery of information is not the single desirable outcome of a high school course of study, and has mentioned the following as desirable results: (a) Habits of study, and (b) ability and willingness to assume initiative and responsibility. (1) Morrison has listed the following objectives of a high school course of study: (a) The acquisition of a wide range of interests and discovery of some dominating interest, and (b) the capacity for independent intellectual life. (2)

Probably the most worthy educational objective is concerned with the development of effective study habits. O'Brien's extensive investigation of high school failures revealed that more than half of the graduating high school students had failed during their school career in at least one subject. (3) It would be rash to maintain that these failures were due to any single cause; it seems reasonable to assume that one of the vital conditions of failure is inefficient habits of study. Failures in college may be traced many times to undesirable study habits. Ineffective methods of study undoubtedly operate also to effect large numbers of failures among college and university students as well as among grade and high school pupils.

The ability to study effectively is an acquisition of many components. The development of desirable habits in reading is a requisite to effective study. Indeed some have maintained that the problem of teaching students how to study is largely one of teaching them how to read.

College training has been indicted severely because of its failure to develop proper reading habits. More specifically, it has been pointed out that college students do spontaneously little reading aside from text-book assignments. (4) The habit of reading systematically for recreation and intellectual stimulation is not evidenced by the modern college youth. The importance of developing and *maintaining* desirable reading habits throughout a student's *entire* school life is at once apparent. It is imperative that permanent habits of effective reading be established if intelligent participation in personal and social activities of society is to be assured.

An analysis of the components of successful reading reveals certain fundamental reading habits. Too, an analysis of poor reading reveals certain incorrect or under-learned habits. The present writers have attempted for several years to develop in college students the attitudes, habits, and skills necessary for the various reading activities in which they should participate. They have encountered again and again mature college students who read slowly and comprehend little, individuals who are seriously handicapped in all academic endeavor because of restricted reading ability. A group of ten students were identified, who manifested extremely restricted reading ability, both in rate and in capacity to comprehend that which was read.

These poor readers exhibited the following conspicuous weaknesses:

1. Inability to reproduce substance of what is read in organized form (outline form, etc.).
2. Inability to answer questions based upon what is read.
3. Inability to form judgments of what is read.
4. Inability to see relationships.

The deficiencies listed above evidence poor study habits. They disclose failure on the part of the student to direct attention to meanings. Systematic observation of the students revealed that lack of focalized aggressive effort characterized their behavior in study. They read in a perfunctory manner

without specific purpose and direction of attention. The undesirable reading habits probably result in part from the common practice of giving formal assignments without problems, questions, or other stimuli. Vocabulary difficulties were found to be powerful factors in some cases. However, it seemed to the writers that the chief difficulty was the lack of a controlling purpose and incentive on the part of the students.

Speed drills were given to these especially poor readers. The writers were struck with the improvement in general reading ability, notably in reading comprehension, that attended increase in speed for this group.

The phenomenon of the class association between speed and general merit of accomplishment has been pointed out by many writers. Bryan and Harter found in 1897 that increase in speed of receiving telegraph messages was accompanied by a conspicuous gain in accuracy. In reading, it has been demonstrated that speed and comprehension are intimately associated and subject to coordinate development. Indeed, experiments have revealed that improvement in reading speed brings generally a noticeable increase in comprehension. Individual differences are revealed, but it is a demonstrable fact that speed and comprehension in reading are subject coordinately to marked improvement. This fact becomes at once conspicuous in the "drives" attempting to improve ability for various groups.

O'Brien gives the results of a special "drive" extending over 39 school days, for the purpose of increasing the speed in silent reading of pupils from Grades IV to VIII inclusive. The increase in speed was enormous, averaging approximately fifty per cent, while comprehension on the whole was influenced favorably. ([5])

The present writers found that increase in speed of reading for certain especially poor readers was attended by an appreciable increase in comprehension. Although much individual attention was given to these slow readers, it seemed that

speed in reading as a *goal* afforded a potent incentive for the expenditure of the effort necessary to break down faulty reading habits. Other elements, of course, contributed to the success of the remedial work. The emphasis upon speed seemed, however, of prime importance. So conspicuous was the success of the individual remedial work that the writers determined to apply certain elements of the technique to an experiment using *groups* of university students as subjects. The writers felt that the general improvement manifested by individual cases when attention was directed to speed was indicative of the possibility of obtaining general improvement by utilizing a similar technique with *groups* of students. They felt further, that improvement in the reading function might effect a noticeable improvement in the general study habits of the students.

Method.

Four groups of students enrolled in the School of Education of the University of Kansas were employed as subjects. Two of the groups were students during the regular academic school year, and participated in the experiment for 13½ weeks. The classes met twice each week. Two groups were composed of summer session students, who took part in the experiment for five weeks only. The summer classes met three times each week. All of the students were enrolled during the experiment in an Educational Psychology course, the Psychology of Reading.

In the experiments conducted during the 13½ week period the class members were directed to spend one thirty-minute period of practice in silent reading between each two sessions of the class.[1] They were directed further to make an eight-minute summary of the material read during each thirty-minute period. They were instructed to read as much as possible,

1 The technique herein employed was suggested chiefly by Stone. See "Journal of Educational Method," Sept. 1922, pp. 8-23, "Improving the Reading Ability of College Students."

at the same time bearing in mind the need of subsequent summarizing. Individual records were to include the following items:

1. The number of lines read during each thirty-minute period.
2. Name of author.
3. Time of reading.
4. Place where reading was done, i. e., at home or in the library.
5. An eight-minute summary of material read.

A committee of three class members was appointed to score the summaries that were turned in, the papers being ranked in order of merit from 1 to 4 according to the degree of comprehension revealed in the summaries. The papers were scored subsequently on the basis of a 100-point range, three separate judgments being obtained and the means secured. Comprehension was estimated through the ability to summarize. It is of course possible that ability to summarize is an inadequate measure of comprehension. Therefore, for one group, the Thorndike-McCall, the Monroe, and the Van Wagemen Reading Tests were employed to measure the initial status of the group in reading comprehensions. End tests consisted of different forms of the first two of the above tests.

The students were requested to use the "reference reading" for practice material. The various groups read most of the three books used as basic texts. These were Uhl's *Materials of Reading, The Twenty-fourth Yearbook of the National Society for the Study of Education* (*Part I*), and Smith's *The Reading Process.*

During the course of the experiments conducted during the regular academic year, each individual made a diagnosis of his needs every two weeks. This diagnosis was made upon the basis of weakness revealed through study of the diagnostic chart in *The Twenty-fourth Yearbook* (*Part I*). (6) Habits of directing analytic attention to particular weaknesses were developed in the students. After identification of spe-

cific weaknesses, each individual attempted to direct focalized aggressive effort toward correcting these weaknesses.

Careful consideration was given during class sessions to the underlearned or incorrect habits that condition poor reading. Especial opportunity for identifying weaknesses was afforded by an intensive study of disability cases in reading made by each class as a unit.

The following factors were conditions judged by one class to be salient ones in effecting success in reading for college students:

1. Physical conditions:
   (a) Bodily conditions (sleep, diet, etc.).
   (b) Environmental conditions.
2. Focalized aggressive *effort* consciously directed toward improvement of *rate* in silent reading.
3. Conscious striving to keep content in mind during reading in order that effective summarizing may ensue.
4. Conscious shutting out of distracting forces, giving concentrated attention to the task at hand.
5. Effective recognition of words and groups of words:[2]
   (a) Accurate recognition.
   (a) Rapid recognition.
   (c) Wide span of recognition.
   (d) Regular progress of perception.
   (e) Accurate return sweeps from the end of one line to the beginning of the next.
6. Freedom from lip movement and incipient articulation in silent reading.

An attempt was made to secure desirable physical and environmental conditions. Students were instructed to read at the same time each day, in the same place, and to control such factors as light, distractions, comforts, etc.

Individual records were kept by each student of his changing rate from day to day. The desire of each student to improve his own record operated as effective incentive to increase speed in reading. Conscious striving to read rapidly with

2 See Buswell, Guy T. "Fundamental Reading Habits: A Study of Their Development," Chap. II. Sup. Edu. Mon., No. 21, Chicago, The Univ. of Chicago Press, 1922.

a high degree of concentration recognized and facilitated the development of *habits of intelligent interpretation.* Habits of intelligent interpretation posit a clear grasp of the *meaning* of passages, the formation of numerous valuable associations. A psychological analysis[3] of the processes underlying and conditioning intelligent interpretation was made by each class. An impelling motive for mastery of these processes was afforded by the student's awareness of the need of such mastery in improving his own reading ability.

A large part of improvement is the dropping out of irrelevant bonds, the subtraction of bonds. Attention was directed by the student particularly to the material at hand, consciously attempting to eliminate distracting forces.

Eye movement was studied through the results of scientific investigations. The students were made aware of the importance of effective habits in this regard. They attempted subsequently to eliminate undesirable habits and to exercise those of value.

Inner articulation in silent reading was shown to be an actual hindrance to effective silent reading. The methods suggested by Pintner[4] were employed for six students in eliminating habits of lip movement attending silent reading.

Results.

The results were obtained by: (1) records of practice, and (2) standard tests. *Every* student who continued practice over 13½ weeks made noticeable improvement. In the summer sessions a consistent gain was made by 90 per cent of the class members in speed and comprehension. There is evidence that intensive practice over even so short a period as five weeks may yield desirable returns.

The summer students practiced two thirty-minute periods between each two recitations. The actual time spent in prac-

3 For such analysis see "The Twenty-fourth Yearbook (Part I)," pp. 14-15.

4 See Smith, William A., "The Reading Process," N. Y., Macmillan, 1923, p. 148.

tice periods was equivalent to that spent by the students attending the regular winter session; the results, however, showed the *spaced* practice to be more effective than the concentrated practice in increasing both speed and comprehension. Table I presents the gain in speed of reading made by the various groups. The same number of individuals were included in each of the four groups (20), and the same number of practice periods were used by each group.

COMPREHENSION.

Comprehension was measured by the extent to which improvement in summarizing was indicated throughout the experiment. Table II indicates the estimates of the committee in reference to this function.

TABLE II.

AVERAGE COMPREHENSION SCORES.

	First Period	*Second Period*	*Third Period*
Group No. 1	66	78	82
Group No. 2	61	74	88
Group No. 3	52	72	78
Group No. 4	56	78	86

It is of course obvious that improvement in ability to summarize attended the improvement in speed of reading. It is likely that improvement in summarizing is an inadequate measure of comprehension. The Thorndike-McCall Reading Tests (Forms 1—6—8) were employed for measuring two groups included in the study. The T-score on the Thorndike test was used to gauge comprehension; rate was measured by informal rate tests devised by the writers. Coefficients of correlation were obtained between rate and comprehension for this group during the first, the eighth, and the fourteenth weeks. The Pearson formula was employed. The following table presents results:

TABLE III.

COEFFICIENTS OF CORRELATION BETWEEN RATE AND COMPREHENSION OF READING (PEARSON FORMULA).

	r.	P. E.
1st Test	+ .78	.06 (.0590)
2nd Test	+ .81	.05 (.0518)
3rd Test	+ .86	.04 (.0392)

The two measures, namely, the ability to summarize and the increased closeness of agreement between the Thorndike-McCall reading tests and the rate tests attending practice, seem to warrant the assumption that increase in rate of reading carries with it increase in ability to comprehend, when the technique outlined herein is employed.

It seems that it is intensity of effort only that educates. Intensity of effort directed toward increasing rate in reading appears to carry with it increased strength of reaction toward content. The focussing of attention upon content may result also from the direction of attention conditioned by the necessity of subsequent reproduction of materials read.

It has been asserted that pupils must learn to read silently without lip movements prior to reaching the fourth grade, if they are to acquire this ability at all; that an individual's reading habits are established in the early grades, and that such habits can be broken only with the greatest difficulty. ([7]) The results obtained from the present series of experiments seem to indicate that it is possible to improve reading habits of mature students. The students included in the present studies were all upper classmen or graduate students in the University of Kansas. The results disclose noteworthy increase both in the rate of silent reading and in the ability to comprehend the materials read.

If the findings herein presented are supported by further experimentation, it is obvious that one means of improving a student's ability to study may be effected by speeding up his silent reading. Proper precautions, of course, must be taken to insure the coordinate development of rate and comprehension.

TABLE I. AVERAGE RATE SCORES.

	Mean gain in speed over initial status
Group No. 1 (20 students)	
First 4½ weeks	14%
Second 4½ weeks	30%
Third 4½ weeks	44%
Group No. 2 (20 students)	
First 4½ weeks	18%
Second 4½ weeks	31%
Third 4½ weeks	48%
Group No. 3 (20 students)	
First period	12%
Second period	23%
Third period	32%
Group No. 4 (20 students)	
First period	11%
Second period	18%
Third period	33%

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The Race Problem and the School

FRANKLIN YOUNG HARPER,
OZARK, ILLINOIS.

IT is not surprising that racial prejudice exists in America, when one comes to consider the almost universal ignorance that exists in regard to the achievements of the negro race during the last fifty years. Any fair-minded person who will consider the very brief time it has been since the negro was in bondage, and will at the same time cast an eye around to see what the negro has accomplished in the line of self-improvement in the last few years, must agree that his progress has been almost phenomenal.

Pride of ancestry is one of the things that has been a spur to the efforts of many great men, and perhaps this factor has played no little part in their ultimate success. Pride of race is just as necessary. It would be rather difficult for a man to succeed in any line of work with an inborn feeling that no other of his race had ever been capable of accomplishing the task before him. To some extent, perhaps, this lack of racial pride has been in the way of many a colored youth of our land.

Booker T. Washington, the celebrated negro educator, once said, "I am proud that I am an American negro." His untiring efforts in behalf of the negro race quite justified that remark. The Tuskegee Industrial Institute at Tuskegee, Alabama, erected a monument to the great work he did, but the grandest memorial to his greatness may be found in the hearts of that great mass of colored people who came under the influence of his teachings.

Like many other problems of national importance, the solution of the race problem lies, to a great extent, with the public

school. The average schoolboy, as well as many teachers, know nothing of the Africo-American except that he secured his freedom as a result of the war of the rebellion. He knows that the thirteenth amendment to the constitution perpetuated that freedom, that the fourteenth made him a citizen, and that the fifteenth gave him the right to vote. His knowledge practically ends there.

Well do I remember, as a small boy in school, the idea I had of a successful negro. I could not conceive of a negro becoming proficient in any line unless it should be as the star actor in a minstrel show, a hotel or railway porter, or perhaps a bootblack. But these ideas were destined to be revolutionized, when upon looking through the school library one day, I came across the autobiography of Booker T. Washington, "Up from Slavery." And when I had finished the beautiful life-story of this man, who forged his way upward in spite of innumerable obstacles, my attitude toward the entire negro race had undergone a change.

In the brief space of time, covering a little over three score years, since the negro secured his freedom he has most assuredly made progress. Practically two million of them were freed by the Emancipation Proclamation. Of this number well nigh all were totally illiterate. Now, according to a recent report, illiteracy has been reduced to practically 27 per cent. It is said by those who profess to know, that they own over twenty million acres of the nation's land and over half a million homes. Practically every colored community has its church and school. The schools are innumerable and it is estimated that there are about 45,000 churches supported by the colored race. Estimate places their total wealth at about $150,000,000.

When one stops to consider that in 1920 there were nearly ten and a half million negroes in the United States, it should not be difficult to see that the race problem is one of considerable moment, and should be treated as such.

Individual achievement is one of the things that is admired

by every red-blooded American boy or girl. When they can be led to see some of the things that have been accomplished by the negro race and by individual negroes, the way will have been paved for a better understanding between the races in the future, and surely this understanding is desirable for all concerned.

Pupils may be cited to prove the fact that negroes have played some part in the political life of the nation. John R. Lynch, a negro lawyer from Mississippi, in 1884 presided over the Republican National Convention at Chicago. This convention nominated James G. Blaine for the presidency. Many negroes have served in the legislatures of their native states. Several have been in the lower branch of our Federal Congress and two occupied seats in the United States Senate. Upon the impeachment of Governor Warmot of Louisiana, a negro, P. H. S. Pinchback, served the remainder of the term. This is the only instance where a negro has served as governor of a state.

Not so very long ago, the public schools of Topeka, Kansas, held a music memory contest. In this contest, we are informed that the colored schools won first and second prizes. This does not seem at all strange to one who has in a measure traced the accomplishments of the negro race in the line of literature. For music and literature are very closely connected. It is a well known fact that the negro has a natural aptitude for music. Therefore, it is not surprising that members of his race should win recognition in the field of literature.

Many fairly intelligent people are ignorant of the fact that some of the world's literary celebrities were of negro origin. For instance, the paternal grandmother of Alexander Dumas was a full-blooded negress. His general appearance bore testimony to this fact. Pushkin, the celebrated Russian poet, was the great-grandson of a negro.

A number of names might be mentioned of American negroes who became famous because of their literary activities.

The history of American literature would not be complete were we to fail to make mention of such names as Jupiter Hammon, George M. Horton, Phillis Wheatley, Mrs. Frances E. Harper, Alberry A. Whitman, Paul Lawrence Dunbar, and others who, although colored, were as sweet singers of the songs they liked to sing as the world has ever known.

Of course, the outstanding figure among negro writers was Dunbar. Perhaps no one who ever climbed the fickle ladder of fame, did so under more trying circumstances. Born in poverty, handicapped by a very frail body, a negro and consequently a target for racial prejudice, but with a determination that would not admit of defeat, he was the first American negro to win the attention of the American reading public with his beautiful dialectic verse. He was a man of fair education and could have written his verse in good English had he chosen to do so, but, with a few exceptions, he preferred to write in the gentle dialect of his people. His message was for his own people. He gave it in the language they best understood. His early life was indeed a struggle, but he just kept "Joggin' erlong," feeling, as he expressed it, that "Dey's lots o' knocks you's got to tek befo' yo' journey's done." However, his efforts were finally crowned with success. A large boulder memorial erected by several thousand school children, marks the spot where he sleeps in Dayton, Ohio, where he was born in 1872. His recognition came, however, before his death. Perhaps he realized more fully the truth of his own words, "De mo'n is allus brightah when de night's been long."

President Harding, in an address at Birmingham, Alabama, a short time before his death, made an appeal for closer cooperation and unity between the races. He said, in substance, that while social equality or amalgamation between the races was not to be desired, yet, in order to bring about the necessary harmony between the white man and the black it was imperative that they come to a closer understanding of each other. In understanding there is sympathy. And it is

surely a concern of the public school to bring about this understanding. A knowledge of the achievements of the negro race in different lines of endeavor will help one to see that clothing of superior fabric fashioned to meet the latest demand, the gold of Aladdin's cave, the color of a man's skin, are not the cardinal points in estimating a man's true worth; but that the all-important consideration is what has he done, or better still, what is he doing toward contributing his share to the welfare and happiness of mankind?

The Ten Chief American Poets

By NORMAN C. SCHLICHTER.

WILLIAM CULLEN BRYANT.

The love of nature roused him quite
To numbers of a perfect kind;
But soon by busy world enthralled
Sweet music fled his mighty mind.

RALPH WALDO EMERSON.

A master of manhood,
A moulder of might;
A shot from the Centre,
A darkness, yet light.

HENRY WADSWORTH LONGFELLOW.

Poet of home and of humble devotion;
Quick to discern each human emotion;
Mild-hearted, friendly, whom mankind reveres
As singer of duty, of absence, of tears.

JOHN GREENLEAF WHITTIER.

Patriot, seer, and godly soul,
Who straightway guides to heavenly goal.
So clear his trumpeting of right
Men act it with their fullest might.

OLIVER WENDELL HOLMES.

Light of spirit, light of song,
Nobly bent on healing,
Gentle laureate of living,
Its joy and truth revealing.

(*Second group in October* EDUCATION.)

The Problem of the Review. A Practical Suggestion as to How It Can Be Met

G. H. ESTERBROOKS,

COLGATE UNIVERSITY, HAMILTON, N. Y.

THE following suggestions are advanced in the hope that others may find them of use in teaching. We all know that a student can make startling advances in certain specific subjects. Starch states that twenty minutes a day for thirty days will give a pupil enough Latin vocabulary for a year; thirty minutes a day for half the school year will give him enough for his entire course in high school. He then points out that the actual advances in the school subjects for one year range from about 5 to 25 per cent. Rather disappointing when we review the experimental literature and see what can be done in isolated skills.

Why the discrepancy? The writer has not the least idea that he has solved the problem, but does hope that the following suggestions if carried out may raise that percentage just a little.

The crux of the problem, it would seem, is not so much the putting of new learning into the head of a boy as the keeping of facts fresh which have already arrived there—supposedly. The child learns his lesson one day and forgets it the next with religious regularity. Then he gets his lesson for the following day, and so on. The point which seems important is that we stress this acquisition of the new, whereas in reality we should be making certain that the foundation, the lesson of yesterday, has not vanished into oblivion.

This systematic and careful attention to review work is really a very important point—just how important we cannot judge. The process of learning, as we all know, depends on the foundation, on the thoroughness with which the past is

mastered and the ease with which it is recalled on demand. Hence, in this article the stress is placed on the necessity for review even at the risk of over-emphasis.

The writer bases his class marks entirely on review work. Obsessed with the importance of mastering back work an attempt has been made to evolve a system of notes which makes this as easy as possible. First a lecture is always given to every new class on the importance of proper, comprehensive and neat notes on the lectures. These notes are handed in at the end of the semester and count in the final grade.

Far more important, however, are what we may term "pocket notes." These are simply three by five filing cards. A digest of each lecture is made on one side of these by the student, it being quite possible to get the essentials of any two lectures on a single card. By the essentials I mean the "key" words. The name that is hard to remember, the formula which is the center of trouble, the list of five or six points which digest so-and-so's views on some topic, in fact, anything which the student feels is liable to skip his mind and to cause trouble in future. It is really quite remarkable how much one small card can contain.

The pupil then virtually has his notes in his pocket, and I point out to them that it is the odd five minutes here and there, concentrated on those essentials, which make all the difference between preparation and uncertainty. I coach them to go over those pocket cards until they have thoroughly mastered them and then file them away for future reference. But before filing them away the student is told to take a strict accounting and transfer any uncertain point onto the next card, for there is a day of reckoning coming.

That day is every day. A period of fifteen or twenty minutes at the beginning of each class goes to review, this including back assignments. Questions take the form of queries that can be answered with a word or a sentence each. For instance: "What does such-and-such a date suggest?" "Who wrote such-and-such a book?" "What is the formula for so-

and-so?" "Give the five points of so-and-so's theory?" I find that once the class gets the technique they can answer thirty such questions, correct them by changing papers, and hand them in, all in fifteen minutes.

Moreover, the fellows like it. There is no question of being *almost* right or wrong. The quiz is objective in the highest sense of the word. The questions can easily be made so that one answer and only one is right. They have their pocket notes, on which they have, or should have, all the points in question. They are coached to bring their notes to class and to be sure to enter on them all points which they have overlooked. The thirty questions can be dispersed as the instructor sees fit. He can take one from each of his last thirty lectures, or he can give all thirty from one assignment—if any one assignment happens to yield that many. It is a good plan not to follow any fixed rule. Concentrate one day and disperse the questions the next! To get the best results the questions must be plain and absolutely unequivocal—one answer, and only one. In that way a maximum number of questions can be asked and the past work gone over very thoroughly.

It is also of use to take an entire period and simply quiz the class on back work by this method. If the lecturer will but keep his lectures on cards—or notes— and mark every possible question with a red pencil, he will find that he can race through a half term's work in an hour and leave a sadly chastened class behind him. But, for all that, the men thoroughly enjoy such a quiz. It is after the nature of "ask me another," and is really not very fatiguing, since they either know the answers or don't—and that's all there is to it.

Moreover, this system of constant review and constant quizzing keeps them in excellent form for the final "exam." This, again, is as objective as possible. Half the time spent on those single word or sentence questions, and the other half in five-minute essays! In the five-minute essay they are simply required to write for five minutes on some subject,

necessarily of a somewhat restricted and definite nature. Fifteen to twenty of these will go a long way toward taking care of those points which cannot be handled by the shorter quiz questions. The essays are not so popular and are necessarily more difficult to mark—but I feel that they are necessary and are as objective and as fair as the essay type of question can be.

The students with whom the writer has to deal are college sophomores; but this system of review cards and of constant check on these review cards would be even better suited to the high school. The college man is pretty well set in his methods of study, whereas the high school boy is not. If it could only be brought home to him that review is really the important thing, and if his teachers would attack the problem from this angle, I feel that we would make greater progress in the long run. The system of card notes here mentioned, can be worked with very little trouble, and with these notes the pupil has the real stumbling-blocks of his work always with him. Systematic review of these points can be made very rapidly, and the class marks arrived at by this means. A little care on the part of the teacher will make certain that all really important points are dealt with in these reviews, and that the pupils are kept up to the mark at all times.

Needless to say, such a system is admirably suited to some subjects, worthless for others. In the case of French vocabulary, or for the content of a course in history, it should be excellent; for algebra it would have but a limited use; while in manual training it would be a pure waste of effort. The writer's plea is for a regular, systematic, and thorough review in those courses having a "content" which lends itself to such an attack; and he has found the technique herein proposed very well suited for this purpose. Whether his contention that such a procedure would lead to a larger retention on the part of the ordinary student is correct or not, only time and experience will tell.

An Experiment in Oral English in the Third Grade

MARY E. D. DEVEREAUX,

PRINCE SCHOOL DISTRICT, BOSTON.

REASON for Choice of Problem. The purpose in attempting this experiment in Oral English was to develop greater co-operative activities on the part of my pupils. After having formed teaching habits largely predicated on the theory that "the noses of the rising generation should be held to the grindstone of knowledge," and having practised many of these habits for almost ten years, the difficulty was where to begin.

Few subjects in every child's curricula lend themselves so well to guidance, because of its application to so many other subjects, as does English. Therefore English, and preferably Oral English (because in the third grade more time is given to oral than to written English) seemed to me to be the best subject in which to work out guidance problems.

A further reason for working out this experiment was to test the practicability of the entire guidance theory. The results obtained seemed to me to be the best evidence of its value.

Division of Time. The length of time in school weeks which could be devoted to the general problem was approximately ten weeks. About fifteen minutes per day of the English period (half) could be given to the direct presentation and class discussion which followed individual reports.

The first three weeks were given to guidance in education through oral reproduction for the purpose of developing study habits which would function in later divisions of the work. The second period, consisting of two weeks, was on vocational guidance. The third period, also two weeks, was on the topic

of citizenship. The remaining three weeks were assigned to health, training for leisure, and home membership. One week was considered sufficient for each of these topics, as many of their points were covered in the preceding compositions.

Preparation work was done during the following times: "seat work" periods (corresponding to study periods in the higher grades), before school periods, and when other assigned work was completed. As far as possible, the children were not encouraged to get help at home, for the reason that the preparation or suggestion of ideas might be given by an older person who would impose more mature ideas upon the child. Thus the pupil would be deprived of freedom in carrying out his task.

The reason I arranged my program this way, rather than spending so many weeks on news-article reporting, dramatizing, arguing, etc., was because with little children (seven to nine years of age) it seems unwise to develop the various forms of oral composition. However, all forms of expression did enter into the work.

Reproduction—for Study Guidance. The objective was for the children to be able to tell a story so that everybody in the class would enjoy hearing it. The suggestions for selections of stories which the children gave were:

1. Choose a story which has a point to it.
2. Select one you like yourself.
3. Pick one that does not take more than three or four minutes to tell.
4. Choose one you think other children will like.

The next step was where to find the story. The following places were used, based upon pupils' suggestions:

1. Library books which the Boston Public Library had loaned to us.
2. The teacher's cabinet.
3. Books to be drawn on our own cards.
4. Any books which children had at home and cared to loan.

After the child had browsed through books and had picked a story which he thought met the requirements we had set down, he showed it to the teacher for her final approval. If this were given he wrote his name and that of his story on a paper called the "Bulletin Sheet." In case of competition, the pupils agreed that the first child to choose the story should have the right to it.

In getting ready to tell the story each child put down the main point (the crisis), then the steps which led up to it, and the conclusion which followed. The teacher, assisted by four or five helpers, went over the outlines, helping children where help was needed. Topics were then arranged in a step fashion, leading up to the crisis.

The suggestions given to make the telling effective were:

1. Know your story (not by heart but in general).
2. Use good English.
3. Look at your audience.
4. Use a loud voice.
5. Speak with expression.
6. Swallow "and," "so," and "er-er."

After the story had been told to somebody at home, for help and criticism, then the child might volunteer to tell it in school. While he was talking, the rest of the class noted these three points:

(a). Good point.
(b). Suggestions for improvement.
(c). What the story teaches me.

During the telling, on several occasions I invited teachers to visit us. Both the visitors and I were amazed to see how often the class got just the point and knew what the story should teach.

When every child in the room had given his story, we tabulated on the board a list of things which the stories had taught us. We found they related to all walks and experiences of life. One of the tabulations was, "Be Interested in Worth-

While Things." This gave an excellent starting point for vocational guidance, our second topic.

Vocational Guidance. "The reason why we must be interested in worth-while things is, so that when we grow up we will have learned how to do some worth-while things," said one member of the class.

In the two weeks devoted to this topic, we learned and told each other much about these mysterious "worth-whiles." We started with what we already knew and worked into new fields. First, we listed occupations for men and then for women, and gave two or three sentences on what we knew about each. Then we proceeded to gather new information.

On three different afternoons after school, we paid visits to near-by places in which we had shown some interest. These were: a large garage, a police station, the fire station, the ice cream parlor on the corner, and a near-by candy factory. In addition we watched the traffic officers who directed traffic on Massachusetts Avenue and Huntington Avenue. Whenever possible, we asked questions about the work and had intimate talks with the workers. On the day following each of these visits different children gave oral reports of the visits.

To emphasize certain points which we had not been fortunate enough to see in actual operation, I took the children into our kindergarten hall and showed them slides of activities such as grain farming, truck farming, tradesmen, and professional people at work. Things which we were to look for in each work were listed on the board. The next oral report was one in which the child presented the four or five most interesting points about the occupation which appealed to him most. Upon pure speculation I had thought this would be too hard, but I received a most pleasant surprise, for the children almost unanimously picked the essential qualifications.

In the final lesson, the pupil presented arguments or reasons, "Why I would make a good ———" (specific choice).

After this experiment I shall never say little children are not the keenest of observers and critics.

Guidance for Citizenship. In the preceding work the children had been given opportunity for more freedom than they had ever experienced in school relations. Some of them, naturally, made mistakes, such as quarreling in public places, loitering, etc.,—mistakes which they would not have made if they had received proper guidance. Therefore, although our morning program does contain a place for character development, I though it might result in more effective activity if the subject were taken up in oral composition.

In opening the subject, I asked the class if it was because we had *talked* about self-control and reliability that they behaved so nicely when I was out of the room. After being told that no ill consequences would result if the truth were told, about fifty per cent of them declared that it was because of fear that they behaved. This answer came as a surprise, in view of the fact that I have never had to punish a child. My subsequent motive then became to have them develop certain attitudes because of their positive value rather than the negative ones.

Each child was to deal specifically with himself as an individual, then in relation to other children. Each one of us analyzed himself to determine which of the qualities of a good citizen we possessed. This was easy. The difficulty lay in picking out those in which we could not give ourselves good ratings.

Then followed research works in books and newspapers to find stories about people who had the qualities we lacked. Reports were made on these. Children were at liberty to give talks on character assets, provided they were backed up by a specific example. Sometimes ideal classmates were discussed.

Finally, the children gave reports on how they could, in some concrete situation, practice the quality which they needed in order to be better citizens. Some splendid examples of improving one's workmanship in a certain subject through

increased effort at home were given. Several children told of how they would improve in self-control by going directly home from school, by doing errands cheerfully when first asked, etc. In no case did the report go unchecked. At the end of the second week, each child was asked to give a short account of how it worked out, mentioning any obstacles that had been met with and their solution.

Guidance for Health. In our oral compositions on Citizenship, one of our group had mentioned the fact that a boy or girl could not do good work without good health. He was told to bring this to our attention the first of the following week, which he did. We found reasons why some children were called healthy, and compared them with children who were not strong and healthy, in such a way as to avoid making some over-sensitive. On one occasion a representative of the New England Food and Dairy Council came out to the school and gave a beautiful story, with lantern slides, on "A Visit to Health Land." She promised to send pictures for coloring to each child who took milk in school.

Several children who at one time had been under-weight made reports on what they had done to increase their weight. A group of five little girls and one boy presented a health play which to them seemed to have value.

Training for Leisure. Leisure or spare time seemed to be something which many of us found heavy on our hands. A few children who made some gains from their activities during spare time in clubs, selling newspapers, etc., were very anxious to report on what they did, because of definite satisfaction derived from the activity.

Many children complained that there was little opportunity for fun in the city. They said that children living in the country could do more things than they could do. This gave an opportunity to bring in a discussion on special advantages that we, living in the Back Bay, had which the children in the country did not have. We found that we had the "Children's Story Hour" every Friday afternoon in the Boston Public

Library. We could see all the flower shows (free, too) at Horticultural Hall, exhibitions at Mechanics Hall, special plays for children by the Emerson School Players, and take part in the children's chorus at the New England Conservatory of Music.

An excellent opportunity for the use of leisure for something which would help each child to earn money to aid a worthy cause presented itself this week. Each child planned some way of earning his contribution to the Mississippi Relief Fund and then told the class about it. Our success in carrying out our plans to earn money was so complete that the contribution we made to this fund was greater than that of any other class in the school.

Worthy Home Membership. The children were told to report after they had studied the actions of each member of the family when by himself and when the entire family was assembled. Some very interesting reports on inability of the members of the family to co-operate and general home problems were made. In class discussions some possible solutions of these problems were talked over, and some of them are being tried out. In many cases the parents have been anxious to give their co-operation toward the realization of our goal: Worthy Home Membership.

Personal Review of Working of the Problem. As I write these lines I am reminded of the oft repeated saying, "We learn something new every day we live." After my most interesting experiences gained through the working out of this guidance project, I want to change this quotation to read like this: "No matter how long she may have taught, the progressive teacher, whose professional interest is centered in the guidance of her pupils for the betterment of their individual and co-operative welfare, not only learns something new about children every year she teaches, but she herself leads a fuller, a richer, and a happier life."

As a proof of this statement, the following are some of the more important conclusions which I have drawn from experi-

ence, and of which no amount of mere reading could have convinced me:

1. Children of eight or nine years of age have almost as good judgment as adults have on matters with which both have an equal degree of knowledge and experience.

2. When properly guided, they are anxious to do their best quality of work for reasons other than marks.

3. When each child is engaged in some profitable activity there is almost no discipline problem.

4. The reticent or individual child reveals himself in such a way and to such an extent as he never would under the "hand-me-down" classroom atmosphere.

5. The type of child who has always been considered by previous teachers to be a drag on the class, or to have some imagined handicap which cannot be corrected, often proves that these suppositions are grounded in faulty guidance or worse (?) no guidance at all.

6. Often, when appreciation of a child's interests or hobbies is not to be found at home, for various reasons, the ambition is saved from being smothered by an understanding teacher and classmates who do show appreciation.

7. As a final conclusion, I believe that children's problems, no matter where or how encountered, should be of as great an interest to the teacher as are her own personal ones, because in helping children to solve theirs, she has contributed to one of the biggest problems in life.

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American Notes—Editorial

An Incident and Its Suggestions. It is the relation of a Freshman's experience in a well-known college. It happened some years ago. He, the Freshman, entered college at a little under 18 years of age, poorly prepared.—not because of any inadequacy or neglect of his preparatory school teachers, but simply because of his immaturity. It is often thus. However, he was admitted,—heavily loaded with "conditions." He took his place with his classmates, but with little ambition or self-confidence. The early weeks and months were discouraging. But he just "rubbed" along, somehow. Apparently only a miracle could enable him to go on to the end of the year,—to say nothing of the long pull to graduation.

Well, the miracle happened! A thoughtful professor who loved boys, and believed in them, felt that several of his students needed a little stimulus that would help them to find the real joy and value of scholarship. With this motive he offered, toward the close of the Winter term, a prize which should be awarded to that student in his Greek class who should produce the best translation—in prose or verse—of an assigned passage from Homer's Odyssey, describing the beautiful design and decorations of the wonderful "Shield of Achilles!" Every member of the class was required to make an attempt at it. It was made a part of the class work for the term.

Working out this "stunt" as he would have striven to solve a puzzle, and utilizing what he had learned about versification from a book upon the subject that had been given him by a friend, this lad translated Homer's beautiful description into English hexameter lines. The beauty of the passage gripped him. The Greek hexameters turned, almost of themselves, into English hexameters. The deed was done almost before he realized it,—and it was its own reward. He had little thought of the prize. He had never dreamed of such a thing as winning *anything* in competition with the already "high-rankers" of his class. But he had to pass in some sort of a translation as a part of the class work. Therefore, he did his best, and soon forgot the matter. It was, of course, foreordained that one or another of the already recognized class leaders would win that prize.

After a few weeks the day arrived for the announcement of the winner. The class was assembled,—the professor at his desk. Everyone—with the exception of the three or four who knew that *they* would never take a prize—was on the "qui vive." The professor announced that the committee of the faculty who were the judges had found two translations that had special merit. He had these in his hand, and also the sealed envelopes containing the authors' pseudonims on the outside,—their real names being within. He stated that the student whose assumed name he should first read was to come forward and receive his translation and read it to the class.

The student who first responded to these instructions (as more

than half the class expected would be the case) was one who had already made a record as the best scholar and all-round man of that class. He had been elected captain of the baseball nine and of the gymnasium squad. His recitations and examination papers were invariably marked 100. In every way he was universally the idol of the class. He now went forward, took his translation from the hands of the professor and read it to the class with precision and marked eloquence. It was written in English blank verse. When he sat down the class expressed their emotions with boistrous enthusiasm. They were sure that this translation had won the prize.

The room was again quiet. The professor said that for certain seemingly good reasons, he himself would like to read the other of the two translations selected by the committee of the faculty. This he did,—with all the eloquence and skill of a trained elocutionist. At the close of the reading he said that the committee had found both of these translations well written and meritorious; but that after due consideration and discussion they had agreed that the prize should be awarded to the author of the one last read. This decision, he added, was largely due to the fact that the translation which he had just read had been written in the more difficult meter of the two. The faculty had no knowledge whatever of the authorship of either. He then asked the student who had signed himself as this last translation had been signed, to come forward and receive the prize.

That was a dramatic day and hour for that boy on the back seat! At that moment he woke up. On that day and hour he was intellectually and spiritually born. At that supreme crisis he found himself. Thereafter he retrieved and made good in scholarship and popularity. This, his initial success and victory, opened to him one of the best college fraternities. It led to his election as Class Poet,—an office which he held throughout the four years of his college course. No small part of his postgraduate success was traceable to that dramatic hour.

We leave the teachers, and their pupils, to draw the moral, or *morals*. We fancy there are several!

As we were revising the proofs of the above narrative, the postman laid upon our desk a report of a discussion at a recent meeting of the Institute for Administrative Officers of Institutions of Higher Education, at the University of Chicago. Our readers will find in Dean Kelly's remarks, as presented below, a fresh confirmation of the "moral" of our incident.

"Stimulation of the average student to greater intellectual curiosity by improved methods of teaching, *rather than neglecting the mediocre group in favor of the more capable minority,* was the solution of

America's educational problem offered by Dean F. J. Kelly of the University of Minnesota, at the concluding meeting of the Institute. Challenging the views expressed by President Frank Aydelotte of Swarthmore University, that the undergraduate wheat should be separated from the chaff, Dean Kelly declared that the fault of poor work lay not with the student but with the instructor. As a remedy, Dean Kelly proposed that all colleges form committees of research in educational methods, with the duty of *searching out ways and means of making students enthusiastic about their work*. Though but four out of fourteen leading American universities have such committees now, the work of these four had amply justified their existence, he said. Agreeing with President Aydelotte's theory that the only way to arouse an interest in study by undergraduates was to place the entire responsibility on their shoulders, Dean Kelly differed with the Swarthmore President's proposal that classes be limited to twenty members. Investigation by the University of Minnesota research committee had shown that students did better work in a class of sixty than in a class of twenty, he said. "When properly stimulated, undergraduates can think consistently and wisely about the intimate problems of their own education," said Dean Kelly,—urging the officers to pay more attention to student criticism of educational methods. He pointed to the "Dartmouth Report" and the report of the Harvard Student Council as samples of intelligent undergraduate criticism.

The American Library Association (Chicago) informs us of the fact that early in 1926 the Trustees of the Carnegie Corporation voted to set aside $4,170,000 to carry out its proposed program in Library Service. One of the outstanding items on this program was the promotion of education for librarianship through gifts to existing library schools for this purpose. A sum of $50,000 a year was made available. $25,000 of that sum was granted to the New York Public Library School over a period of ten years, and went with it when that school was transferred to Columbia University. The remaining $25,000 is distributed under the advisement of the Board of Education for Librarianship of the American Library Association. The Executive Committee of the Carnegie Corporation, on recommendation of the Board of Education for Librarianship, has made the following appropriations in support of existing library schools for the ensuing year: Library School of the Carnegie Library of Atlanta, $10,000; Hampton Institute Library School ($2,500 annually), $7,500; St. Louis Library School, $3,000; Simmons College, School of Library Science, $3,000; Western Reserve University School of Library Science (as final grant), $9,000.

The Public Libraries of the United States rank with the Schools and Colleges as foremost agencies for the promotion of education and civilization. We may well be proud of what they are accomplishing.

John D. Rockefeller, Jr.'s recent address at Brown University on college finance and the necessity of increasing tuition fees, particularly in privately-endowed institutions, to more nearly cover costs, is most timely. His discussion of this pressing situation in our system of higher education, in the opinion of the Foundation, brings out clearly the mistaken conception that usually exists regarding the part that debts incurred for education play in the future career of the student. Obligations, inevitable because of financial stress, are treated as a necessary evil rather than a practical financial arrangement having educational and developmental value.

After an experience of five years, in which the Foundation has made, in accordance with sound business principles, 1,723 loans, aggregating $275,259, we look upon the matter from an entirely different point of view. Our conclusion, after a careful study of the disciplinary influence of the liquidation of these obligations, convinces us that, far from being a handicap to any of life's plans, this experience is most useful to every student and prepares him morally and psychologically to develop with greater rapidity than would be possible without it. When we look back on the ill-formed, or totally inarticulated concept of a debt when the student leaves college, and his high-minded attitude toward his business obligations when he has repaid his loan, we are convinced that no other single college contribution is quite as important in preparing him for success in life. This arrangement may not be applicable to students preparing for the ministry or obviously non-remunerative employment but it is certainly true of those students who are preparing to go into active business or the professions.—From the News Bulletin of The Harmon Foundation (New York City).

With the appearance of the fourth and last volume of *A Survey of Libraries in the United States*, the American Library Association has made available a collection of material whose value to the library world has no doubt been foreshadowed. The Survey is a vast compilation of trustworthy data bearing on every conceivable aspect of library work. Its statements have been verified, analyzed, and set down in their proper proportions, so that it is a sane, well-balanced work of research which places due stress where due stress belongs. It crystallizes modern-day problems and their solutions, and although

libraries grow apace, many years will pass, no doubt, before the profession will have outgrown the *Survey*. It is the "questions and answers box" through which library workers, the world over, will be able to exchange ideas and methods.

Actually, some 1,500 libraries were plied with thousands of pertinent questions, that this fact-finding survey might be representative, complete, and up to date. "Do you do this?" they were asked. "Have you always done this?" "Why?" "Is this more acceptable?" "Why?" Definitive queries were made, in typical form. "How do public college and school libraries select their books?" "How do libraries guard against theft and mutilation of books?" "How are staff appointments best handled?" "What methods are employed to teach children how to use the library?" "How are books kept clean?" "What is the general practice regarding inter-library loans?" "What use is made of book wagons in city systems?" "What are the average salaries for different grades of service in public, college and university libraries?" "How do libraries handle fines?" More specialized fields were entered. "How do libraries select their books for the foreign born?" "What about work with the blind?" "What special service is offered to negroes?"

As a complete exposition of the subject in hand, *A Survey of Libraries in the United States* represents a painstaking seeking out and determining of those facts which have bearing on libraries or librarians. The findings were written up by a number of trained people, whose concerted efforts have yielded a work that is highly readable, interesting, informative and authoritative. We have quoted the above because we believe that our readers of EDUCATION are patrons of the libraries throughout the world, and will therefore be interested in this helpful survey.

A complete clinic on wheels is the latest addition to the equipment of the health department of the Los Angeles Board of Education. Carrying a complete set of optometrists' and dentists' fixtures, the two physicians and one nurse with the automobile can look after the welfare of many children each day. This clinic consists of a small house on a truck; the house having two rooms, one for dental work and one for the testing of eyes. Many children having bad teeth and with no opportunity to receive dental aid are taken care of by the periodic visit of the truck to their school. The testing of eyes and the proper fitting of glasses will aid many little children who would otherwise be greatly handicapped in their school work. It is claimed by the Los Angeles Board of Education that this is the first and only mobile health center of its kind in America.

Book Reviews

PROBATION AND DELINQUENCY. By Edwin J. Cooley. $3.00. Thomas Nelson and Sons, publishers, New York, N. Y.

This is an elaborate study of the subject, including the treatment of the individual delinquent. The author speaks from experience, as he was and presumably is, the chief probation officer of the Court of General Sessions of the City of New York. He stands for "sympathy, profound understanding, skilful guidance and training of errant youths which have to be dealth with in their critical period of growth and infinitely difficult problems of adjustment." He advises to "neither condemn nor ridicule, but to try to understand." This is basic. And it will "work" in the majority of cases. A book that should be in the library of every school and in the home of all thoughtful parents.

THE NEW EVERYDAY ARITHMETIC. By Franklin S. Hoyt and Harriet E. Peet. Houghton, Mifflin Company.

These three books are the latest form of the well-known Everyday Arithmetic by the same authors. They are evidently the result of much study and investigation, and are thoroughly modern in every way. There is careful preparation for each new step, follow-up exercises, and cumulative reviews. Consistent attempt is made to make the work real and interesting. The dramatic form of problem helps in this respect. There are many diagnostic tests and practice exercises, problem tests, progress scores, measuring scales, and a number gymnasium. The third book is for grades seven and eight, and contains some geometry and formulas. —ROBERT R. GOFF.

CHANGING PRACTICE IN HANDWRITING INSTRUCTION. By Paul V. West, Ph.D. Public School Publishing Company, Bloomington, Ill.

A thorough examination of the leading theory and practice systems now before the schools and the public, for teaching writing. To our unprofessional minds each of the leading systems has its merits and its "outs." There is some compensation for this in the fact that room is thus left for "personality" in handwriting. We like to recognize the address on letters from our friends that seem to suggest their characteristics. We feel that there are enough people in the world who write, to give room for several varieties of handwriting. Some letters which we receive give us real thrills of pleasure, even in spite of their illegibility. Others pall by their spiritlessness. In strictly business circles readableness is the supreme test.

SOCIAL ARITHMETIC, BOOK THREE. By Frank M. McMurry and C. Beverley Benson. The Macmillan Company.

"Arithmetic consists, first of all, of good quantitative thinking about subjects of real social worth." This thinking must be accurate and therefore needs the exactness obtained by the number-processes. Some of the chapter headings are: Changes in Our Occupations and Conditions of Living, Our Food Supply, etc. In each chapter there are many problems that help in forming conclusions about the topic of the chapter. Emphasis is laid upon these problems and discussion of the text. Drill work is subordinated. The book is addressed to the boys and girls, and should be interesting and stimulating to them.—ROBERT R. GOFF.

PRINCIPLES OF CHEMISTRY. By Joseph H. Roe, Ph.D. $2.50. St. Louis, Mo. An Introductory Textbook of Inorganic, Organic and Physiological Chemistry for Nurses and Students of Home Economics and Applied Chemistry, with Laboratory Experiments. Illustrated. Published by The C. V. Mosby Company, St. Louis, Mo.

The author of this book is Professor of Chemistry, George Washington University Medical School; also Lecturer in Chemistry, Central School of Nursing, Washington, D. C.; Captain, Sanitary Division, United States Medical Reserve. Written to meet the requirements of the forty-five to sixty-hour course in chemistry for nurses recommended by the National League of Nursing Education, the Outline of that organization has been followed in the main, but with minor changes in the treatment of organic troubles. The language is as simplified as possible. It is believed that the volume will be useful in elementary courses in schools of Home Economics. The Table of Contents is a model of comprehensiveness and clearness, enabling the reader to find quickly the chapter and page information needed for any emergency or needed fact. The *materials* of the book, paper, printing and binder's work, illustrations, etc., are worthy of special praise. It should be widely useful, in war and in peace, in the home and in the schools.

LIFE CHANGERS. (More Twice-Born Men.) Harold Begbie, author of "Twice-Born Men." G. P. Putnam's Sons. $1.50.

This is another inspiring "character-making" book. It relates the confessions of a young man, and shows how several young men became "evangelists" and demonstrators of the Divine life, winning others to a real religious life and service. The spirit of this true narrative will be contagious. It will be almost miraculously helpful to young men who are desirous to live a Christian life, and to induce others to do so, in our schools and colleges. And it is as good a book for young women as for young men.